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RD120.7. T65

From: Yaen, Christopher
Sent: Friday, April 26, 2002 12:14 PM
To: STIC-ILL
Subject: 09815306

392989

could you get this reference

bulfone-paus s et al Transplantation 2000 Apr 15;69(7):1386-91

10798759

Christopher Yaen
Patent Examiner
Art Unit 1642
CM1-Rm 8E18
Mail Box 8E12
703-305-3586

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Fr m: Yaen, Christopher
S nt: Wednesday, April 24, 2002 6:24 PM
To: STIC-Biotech/ChemLib
Subject: 09815306

could you please run a sequence search on seq id no. 1 and also run an oligo search

Thanks

Christopher Yaen
Patent Examiner
Art Unit 1642
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Mail Box 8E12
703-305-3586

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TYPE OF SEARCH:

NA Sequences: _____
AA Sequences: _____
Structures: _____
Bibliographic: _____
Litigation: _____
Full text: _____
Patent Family: _____
Other: _____

VENDOR/COST(where applic.)

STN: _____
DIALOG: _____
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WWW/Internet: _____
Other (specify): _____

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OM protein - protein search, using sw model

Run on: April 25, 2002, 11:05:40 ; Search time 10.81 Seconds

(without alignments)
769,927 Million cell updates/sec

Title: US-09-815-306-1

Perfect score: 1185
Sequence: 1 MNKSPMKGSLLLVSNL.....HKIDNYLKLCRIIHNNC 227

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 100059 seqs, 36664827 residues

Total number of hits satisfying chosen parameters: 100059

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database : SwissProt_39:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1185	100.0	227	1 PRL_HUMAN	P01236 homo sapien
2	1168	98.6	227	1 PRL_MACMU	P55151 macaca mula
3	959	80.9	227	1 PRL_PIG	P01238 sus scrofa
4	952	80.3	229	1 PRL_RABIT	Q28632 oryctolagus
5	938	79.2	229	1 PRL_FELCA	P46703 felis silve
6	908.5	76.7	228	1 PRL_TRIYU	O62781 trichosurus
7	892.5	75.3	228	1 PRL_MONDO	O62819 monodelphis
8	887	74.9	199	1 PRL_CAMDR	P22393 camelus dro
9	877	74.0	229	1 PRL_CAPHI	Q28318 capra hircu
10	876	73.9	199	1 PRL_HORSE	P12420 equus cabal
11	876	73.9	229	1 PRL_BOVIN	P01239 bos taurus
12	875	73.8	229	1 PRL_SHEEP	P01240 ovis aries
13	861	72.7	199	1 PRL_BALBO	P33088 balaenopter
14	852	71.9	193	1 PRL_MUSVI	P29234 mustela vis
15	793	66.9	229	1 PRL_MELGA	P17572 meleagris g
16	790.5	66.1	198	1 PRL_CHEMY	P33090 chelonis my
17	783	66.1	229	1 PRL_CHICK	P14676 gallus galli
18	777	65.6	199	1 PRL_ALIMI	P55752 alligator m
19	776	65.5	199	1 PRL_CRONO	P55754 crocodylus
20	772	65.1	199	1 PRL_ALIMI	P55751 alligator m
21	771	65.1	199	1 PRL_CRONO	P55753 crocodylus
22	737	62.2	199	1 PRL_LOXAF	P10127 loxodonta a
23	729.5	61.6	226	1 PRL_RAT	P01237 rattus norv
24	724.5	61.1	226	1 PRL_MESAU	P37884 mesocricetu
25	705.5	59.5	226	1 PRL_MOUSE	P06879 mus musculu
26	609.5	51.4	200	1 PRL_PROXT	P33091 protopertus
27	523	44.1	236	1 PRL_BOVIN	P09611 bos taurus
28	494	41.7	134	1 PRL_BUTJA	P43001 buto japoni
29	494	41.7	221	1 PRL2_MESAU	P14059 mesocricetu
30	486.5	41.1	236	1 PRL_SHEEP	P16038 ovis aries
31	472.5	39.9	238	1 PRL2_BOVIN	P19159 bos taurus
32	462	39.0	222	1 PRL2_MOUSE	P09586 mus musculu
33	439	37.0	267	1 PRL2_BOVIN	P12401 bos taurus

34	436	36.8	221	1 PRL2_RAT	P09321 rattus norv
35	429.5	36.2	238	1 PRL1_BOVIN	P05402 bos taurus
36	416	35.1	234	1 PRR3_RAT	P24800 rattus norv
37	413.5	34.9	239	1 PRR4_BOVIN	P18917 bos taurus
38	410.5	34.6	224	1 PRL1_MOUSE	P18121 mus musculu
39	410.5	34.6	244	1 PLFR_MOUSE	P04769 mus musculu
40	400	33.8	223	1 PLRV_RAT	P34207 rattus norv
41	376	31.7	213	1 PRR3_BOVIN	P12402 bos taurus
42	371	31.3	230	1 PRL1_RAT	P21702 rattus norv
43	356	30.0	224	1 PLE1_MOUSE	P04095 mus musculu
44	355	30.0	224	1 PLE3_MOUSE	P18918 mus musculu
45	349.5	29.5	227	1 PRR4_RAT	P09320 rattus norv

ALIGNMENTS

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RESULT 1
PRL_HUMAN          STANDARD:      PRT:      227 AA.
ID      PRL_HUMAN
AC      P01236; 015199; Q92996;
DT      21-JUL-1986 (Rel. 01, Created)
DT      21-JUL-1986 (Rel. 01, Last sequence update)
DT      20-AUG-2001 (Rel. 40, Last annotation update)
DE      PROLACTIN PRECURSOR (PRL).
GN      PRL.
OS      Homo sapiens (Human).
OC      Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC      Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX      NCBI_TaxID=9606;
RN      [1]
RP      SEQUENCE FROM N.A.
RX      MEDLINE=84182507; PubMed=6325171;
RA      Truong A.T., Duez C., Belayew A., Renard A., Pictet R.L., Bell G.I.,
RA      Martial J.A.;
RT      "Isolation and characterization of the human prolactin gene.";
RL      EMBO J. 3:429-437(1984).
RN      [2]
RP      SEQUENCE FROM N.A.
RX      MEDLINE=81168179; PubMed=6260780;
RA      Cooke N.E., Colt D., Shine J., Baxter J.D., Martial J.A.;
RT      "Human prolactin. cDNA structural analysis and evolutionary
RT      comparisons.";
RL      J. Biol. Chem. 256:4007-4016(1981).
RN      [3]
RP      SEQUENCE FROM N.A.
RX      PubMed=2050267;
RA      Hiraoka Y., Tatsumi K., Shiozawa M., Also S., Fukasawa T., Yasuda K.,
RA      Miyai K.;
RT      "A placenta-specific 5'-non-coding exon of human prolactin.";
RL      Mol. Cell. Endocrinol. 75:71-80(1990).
RN      [4]
RP      SEQUENCE OF 11-227 FROM N.A.
RX      MEDLINE=84264464; PubMed=6146607;
RA      Takahashi H., Nabeshima Y., Nabeshima Y., Ogata K., Takeuchi S.;
RT      "Molecular cloning and nucleotide sequence of DNA complementary to
RT      human decidual prolactin mRNA.";
RL      J. Biochem. 95:1491-1499(1984).
RN      [5]
RP      SEQUENCE OF 11-201 FROM N.A.
RX      TISSUE-Breast;
RC      MEDLINE=97411082; PubMed=9266104;
RA      Shaw-Bruha C.M., Pirucello S.J., Shull J.D.;
RT      "Expression of the prolactin gene in normal and neoplastic human
RT      breast tissues and human mammary cell lines: promoter usage and
RT      alternative mRNA splicing.";
RL      Breast Cancer Res. Treat. 44:243-253(1997).
RN      [6]
RP      SEQUENCE OF 29-227.
RX      MEDLINE=78046207; PubMed=925136;
RA      Shome B., Parlow A.F.;
RT      "human pituitary prolactin (hPRL): the entire linear amino acid
RT      sequence.";

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RL J. Clin. Endocrinol. Metab. 45:1112-1115(1977).
RN [7]
RP SEQUENCE OF 29-53.
RX MEDLINE=75151509; PubMed=1126929;
RA Jacobs J.W., Niall H.D.;
RT "High sensitivity automated sequence determination of polypeptides.";
RL J. Biol. Chem. 250:3629-3636(1975).
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -1- CAUTION: REF.3 SEQUENCE DIFFERS FROM THAT SHOWN DUE TO A
CC FRAMESHIFT IN POSITION 8.
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CC -----
DR EMBL: X00540; CA25214.1; -
DR EMBL: X00541; CA25214.1; JOINED.
DR EMBL: X00543; CA25214.1; JOINED.
DR EMBL: X00544; CA25214.1; JOINED.
DR EMBL: X00566; CA23829.1; -
DR EMBL: M29386; AAA00173.1; -
DR EMBL: D00411; BAA00312.1; -
DR EMBL: X54393; CA38263.1; ALT_FRAME.
DR EMBL: X54393; CA38264.1; ALT_FRAME.
DR EMBL: U75583; AAB70858.1; -
DR PIR: A80998; LCHU.
DR HSSP: Q28632; IAN3.
DR MIM: 176760; -
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone.1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Parturition; Lactation; Pituitary; Signal; Glycoprotein.
FT SIGNAL 1 28
FT CHAIN 29 227 PROLACTIN.
FT DISULFID 32 39 BY SIMILARITY.
FT DISULFID 86 202 BY SIMILARITY.
FT DISULFID 219 227 BY SIMILARITY.
FT CARBOHD 59 59 N-LINKED (GLCNAC. . .) (PARTIAL).
FT CONFLICT 42 42 T -> A (IN REF. 5).
FT CONFLICT 110 111 SL -> VS (IN REF. 6).
FT CONFLICT 113 114 S -> P (IN REF. 6).
FT CONFLICT 118 118 E -> Q (IN REF. 5).
FT CONFLICT 148 148 N -> D (IN REF. 4).
FT CONFLICT 172 172 N -> D (IN REF. 6).
FT CONFLICT 190 191 ES -> SE (IN REF. 6).
FT CONFLICT 206 206 D -> H (IN REF. 4).
FT CONFLICT 206 206 D -> H (IN REF. 4).
SQ SEQUENCE 227 AA; 25876 MW; 952BBA1B6A955527 CRC64;
Query Match 100.0%; Score 1185; DB 1; Length 227;
Best Local Similarity 100.0%; Pred. No. 2,3e-90;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MNKGSPPKSGSLLLVSNLLCOSVAPLPICPGGAARCOVTLRDLPDRAVVLSHYIHLN 60
DB 1 MNKGSPPKSGSLLLVSNLLCOSVAPLPICPGGAARCOVTLRDLPDRAVVLSHYIHLN 60
QY 61 SSEMFSEFDKRYTHGRGFTTKAINSCHTSLATPEDEKQAQONQKDFLSIYILRSWN 120
DB 61 SSEMFSEFDKRYTHGRGFTTKAINSCHTSLATPEDEKQAQONQKDFLSIYILRSWN 120
QY 121 EPLYHLVTEVRGMGEAPALISKAVEIEBOTKRLLEGSMELIVSQVHPETKENETIYPWMSG 180
DB 121 EPLYHLVTEVRGMGEAPALISKAVEIEBOTKRLLEGSMELIVSQVHPETKENETIYPWMSG 180

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QY 181 LPSIQMADEESRLSAYYNLHCLRDSDHKIDNVLKLLKRIIHNNC 227
DB 181 LPSIQMADEESRLSAYYNLHCLRDSDHKIDNVLKLLKRIIHNNC 227
RESULT 2
PRL_MACMU STANDARD: PRT; 227 AA.
ID PRL_MACMU
AC P5151;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DE 01-OCT-1996 (Rel. 34, Last annotation update)
DE PROLACTIN PRECURSOR (PRL).
GN PRL.
OS Macaca mulatta (Rhesus macaque).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
OC Cercopithecoidea; Macaca.
OX NCBI_Taxid=9544;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Decidua;
RX MEDLINE=94220570; PubMed=8167226;
RA Brown N.A.; Bethea C.L.;
RT "Cloning of decidual prolactin from rhesus macaque.";
RL Biol. Reprod. 50:543-552(1994).
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC -----
DR EMBL: U09018; AAA18471.1; -
DR HSSP: Q28632; IAN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone.1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Parturition; Lactation; Pituitary; Signal; Glycoprotein.
FT SIGNAL 1 28
FT CHAIN 29 227 PROLACTIN.
FT DISULFID 32 39 BY SIMILARITY.
FT DISULFID 86 202 BY SIMILARITY.
FT DISULFID 219 227 BY SIMILARITY.
FT CARBOHD 59 59 N-LINKED (GLCNAC. . .) (POTENTIAL).
SQ SEQUENCE 227 AA; 25972 MW; 1B6B25E087C401E4 CRC64;
Query Match 98.6%; Score 1168; DB 1; Length 227;
Best Local Similarity 97.8%; Pred. No. 5,8e-89;
Matches 222; Conservative 4; Mismatches 1; Indels 0; Gaps 0;
QY 1 MNKGSPPKSGSLLLVSNLLCOSVAPLPICPGGAARCOVTLRDLPDRAVVLSHYIHLN 60
DB 1 MNKGSPPKSGSLLLVSNLLCOSVAPLPICPGGAARCOVTLRDLPDRAVVLSHYIHLN 60
QY 61 SSEMFSEFDKRYTHGRGFTTKAINSCHTSLATPEDEKQAQONQKDFLSIYILRSWN 120
DB 61 SSEMFSEFDKRYTHGRGFTTKAINSCHTSLATPEDEKQAQONQKDFLSIYILRSWN 120
QY 121 EPLYHLVTEVRGMGEAPALISKAVEIEBOTKRLLEGSMELIVSQVHPETKENETIYPWMSG 180
DB 121 EPLYHLVTEVRGMGEAPALISKAVEIEBOTKRLLEGSMELIVSQVHPETKENETIYPWMSG 180

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[illegible]

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RESULT 7
PRL_MONDO
ID PRL_MONDO STANDARD; PRT: 228 AA.
AC OG2819;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE PROLACTIN PRECURSOR (PRL).
GN PRL.
OS Monodelphis domestica (Short-tailed grey opossum).
OC Eukaryota; Metazoa; Chordata; Craniota; Vertebrata; Euteleostomi;
OC Mammalia; Metatheria; Didelphimorphia; Didelphidae; Monodelphis.
OX NCBI_TaxID=13616;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=pituitary;
RA Kacsob B., Soos G.;
RL Submitted (MAY-1998) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC -1- PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC EMIL; AF067726; AAC18398.1; ".
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone. 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Parturition; Lactation; Pituitary; Signal; Glycoprotein.
FT SIGNAL 1 29 BY SIMILARITY.
FT CHAIN 30 228 PROLACTIN.
FT DISULFID 33 40 BY SIMILARITY.
FT DISULFID 87 203 BY SIMILARITY.
FT DISULFID 220 228 BY SIMILARITY.
FT FT 228 AA; 26071 MW; 4DA2D906FEF333EAD CRC64;
SO SEQUENCE

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D6	4	KGSSVKGSLILLLLMSSNFLKAVESLPICPSGAIVNCQVSJLDFDRAVMLSHYIHSPSS	63
OY	63	EMFSEEDKRYYHGRGFTTKAINSCHTSSLATPEDKEQAQMKNQKDFLSILYSINNEP	122
		: : : : : : : : : :	
D6	64	EMFNFEDERYAQRGROFTTKAINSCHTSSLSTPEDEKEQAQQIRHEBLLNLVLRLVRSMSBP	123
OY	123	LXHLVTEVRGNQOEAPEALLSKAVEEEOPTKRLGGMEIYGVHPETKENETYPWGLP	182
		: : : : : : : : :	
D6	124	LXHLVTEVRSMQEAADTTLKAMELEEQNKRLIGEMEIVGVHGDRENEYVSWGLP	183
OY	183	SLOWADESRSLAYVYNLLHCLTRDSHKIDNYLKLLCKRIHHNNK	227
		: : : : : : : : :	
D6	184	SLQMADEDTRLFAFYNLLHCLRDSHKIDNTKLKLCRHDSNC	228
RESULT	8		
PRL_CAMDR			
ID	PRL_CAMDR	STANDARD;	PRT; 199 AA.
AC	P22393;		
DT	01-AUG-1991 (Rel. 19, Created)		
DT	01-AUG-1991 (Rel. 19, Last sequence update)		
DT	01-NOV-1997 (Rel. 35, Last annotation update)		
DE	PROLACTIN (PRL).		
GN	PRL.		
OS	Camelus dromedarius (Dromedary) (Arabian camel).		
OC	Eukaryota; Metazoa; Chordata; Cranialta; Vertebrata; Euteleostomi;		
CC	Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Camelus.		
OX	NCBI_TaxID=9838;		
RN	[1]		
RP	SEQUENCE AND CARBOHYDRATE-LINKAGE SITE.		
KA	MEDLINE=91230144; PubMed=2029533;		
RA	Marlhat N., Huet J.-C., Nespolious C., Combarrous Y,		
RT	"determination of the primary and secondary structures of the		
RT	dromedary (Camelus dromedarius) prolactin and comparison with		
RL	prolactins from other species.";		
Biochim. Biophys. Acta	1077:339-345(1991).		
-1-	FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY		
CC	PROMOTING LACTATION.		
CC	-1- SUBCELLULAR LOCATION: SECRETED.		
CC	-1- SIMILIARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.		
DR	PIR; S15131; S15131.		
DR	HSSP; Q28632; IAN3.		
DR	InterPro; IPRO01400; SOMATOTROPIN.		
DR	pfam; PF00103; hormone; 1.		
DR	PRINTS; PR00836; SOMATOTROPIN.		
DR	PROSITE; PS00266; SOMATOTROPIN_1; 1.		
DR	PROSITE; PS00338; SOMATOTROPIN_2; 1.		
KW	Hormone; Parturition; Lactation; Pituitary; glycoprotein.		
FT	DISULFID	4	11
FT	DISULFID	58	174
FT	DISULFID	191	199
FT	CARBONHD	31	31
SO	SEQUENCE	199 AA; 22971 MW; E4382E98C4585B19 CRC64;	N-LINKED (GLCNAC...) (PARTIAL).

[illegible]

Db 181 KIDNYTLKLCRIYDSC 199

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RESULT 9
PRL_CAPIH
ID PRL_CAPIH STANDARD: PRT: 229 AA.
AC Q28318; Q28329;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE PROLACTIN PRECURSOR (PRL).
GN PRL.
OS Capra hircus (Goat).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC Bovidae; Caprinae; Capra.
OX NCBI_TaxID=9925;
RN 11
RP SEQUENCE FROM N.A.
RX MEDLINE=95059806; PubMed=7969789;
RA Le Provost F., Leroux C., Martin P., Gave P., Djiane J.;
RT "Prolactin gene expression in ovine and caprine mammary gland.";
RL Neuroendocrinology 60:305-313(1994).
CC CC
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
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DR EMBL: X76049; CA53634.1; -
DR EMBL: X76048; CA53633.1; -
DR HSSP: Q28632; 1AN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Parturition; Lactation; Pituitary; Signal.
FT SIGNAL 1 30
FT CHAIN 1 229 BY SIMILARITY.
FT DISULFID 34 41 BY SIMILARITY.
FT DISULFID 88 204 BY SIMILARITY.
FT DISULFID 221 229 BY SIMILARITY.
FT VARIANT 164 164 L->F
SQ SEQUENCE 229 AA; 25773 MW; 331C640C66134D0A CRC64;

Query Match 74.0%; Score 877; DB 1; Length 229;
Best Local Similarity 72.5%; Pred. No. 4,4e-65;
Matches 166; Conservative 26; Mismatches 35; Indels 2; Gaps 1;

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Db 181 SGLPSLOTDEARHSFYNLHLCRLRDSKSIDTYLKLNCRIYNNC 229

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RESULT 10
PRL_HORSE
ID PRL_HORSE STANDARD: PRT: 199 AA.
AC P12420;
DT 01-OCT-1989 (Rel. 12, Created)
DT 01-OCT-1989 (Rel. 12, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE PROLACTIN (PRL).
GN PRL.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_TaxID=9796;
RN 11
RP SEQUENCE.
RX MEDLINE=88314465; PubMed=3045032;
RA Lehman S.R., Lahm H.W., Miedel M.C., Holmes J.D., Li C.H.;
RT "Primary structure of equine pituitary prolactin.";
RL Int. J. Pept. Protein Res. 31:544-554(1988).
CC CC
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC DR
DR HSSP: Q28632; 1AN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Parturition; Lactation; Pituitary; Glycoprotein.
FT DISULFID 4 11
FT DISULFID 58 174 BY SIMILARITY.
FT DISULFID 191 199 BY SIMILARITY.
FT CARBOHYD 31 31 N-LINKED (GLCNAG. . .) (PARTIAL).
SQ SEQUENCE 199 AA; 23001 MW; 119AE5B6278019E CRC64;

Query Match 73.9%; Score 876; DB 1; Length 199;
Best Local Similarity 79.9%; Pred. No. 4,4e-65;
Matches 159; Conservative 24; Mismatches 16; Indels 0; Gaps 0;

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OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Bovinae; Bos.
 OX NCBI_TaxID=9913;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=82098114; PubMed=6274859;
 RA Sasavaga N.L., Nilson J.H., Horowitz S., Rottman F.M.;
 RT "Nucleotide sequence of bovine prolactin messenger RNA. Evidence for
 sequence polymorphism";
 RL J. Biol. Chem. 257:678-681(1982).
 RN [2]
 RP SEQUENCE OF 21-229 FROM N.A.
 RX MEDLINE=83157107; PubMed=6299665;
 RA Miller W.L., Coit D., Baxter J.D., Martial J.A.;
 RT "Cloning of bovine prolactin cDNA and evolutionary implications of
 its sequence";
 RL DNA 1:37-50(1981).
 RN [3]
 RP REVISIONS.
 RX MEDLINE=83182016; PubMed=6897772;
 RA Miller W.L., Coit D., Baxter J.D., Martial J.A.;
 RT "Bovine prolactin: corrected cDNA sequence and genetic
 polymorphisms";
 RL DNA 1:313-314(1982).
 RN [4]
 RP SEQUENCE OF 96-229 FROM N.A.
 RA Rubtsov P.M., Oganeyan R.G., Gorbulev V.G., Skryabin K.G., Baev A.A.;
 RT "Genetic engineering of peptide hormones. II. Possible polymorphism of
 prolactin in cattle. Data of molecular cloning";
 RL Mol. Biol. (Mosk) 22:117-127(1988).
 RN [5]
 RP PRELIMINARY SEQUENCE OF 31-229.
 RX MEDLINE=75031394; PubMed=4608931;
 RA Wallis M.;
 RT "The primary structure of bovine prolactin.";
 RL FEBS Lett. 44:205-208(1974).
 RN [6]
 RP SEQUENCE OF 31-46.
 RX MEDLINE=71150631; PubMed=5507606;
 RA Graf L., Cseh G., Nagy I., Kurcz M.;
 RT "An evidence for deamidation of prolactin monomer";
 RL Acta Biochim. Biophys. Acad. Sci. Hung. 5:299-303(1970).
 RN [7]
 RP PHOSPHORYLATION SITES.
 RX TISSUE-Pituitary;
 RC MEDLINE=94071839; PubMed=8250856;
 RA Kim B.G., Brooks C.L.;
 RT "Isolation and characterization of phosphorylated bovine prolactin.";
 RL Biochem. J. 296:41-47(1993).
 CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
 PROMOTING LACTATION.
 CC -1- SUBCELLULAR LOCATION: SECRETED.
 CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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 or send an email to license@isb-sib.ch).
 CC -----
 DR EMBL: V00112; CAA23446.1; -;
 DR EMBL: X01452; CAB57794.1; -;
 DR EMBL: X01744; CAA25880.1; -;
 DR EMBL: M36873; AAA30737.1; -;
 DR EMBL: M36874; AAA30738.1; -;
 DR EMBL: X14320; CAA32500.1; -;
 DR EMBL: X14321; CAA32501.1; -;
 DR PIR: A01508; LCBO.
 DR HSSP: Q28632; IAN3.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.

DR PRINTS: PR00836; SOMATOTROPIN.
 DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
 KW Hormone; Parturition; Lactation; Pituitary; Signal; Phosphorylation.
 FT SIGNAL 1 30
 FT CHAIN 31 229 PROLACTIN.
 FT DISULFID 34 41
 FT DISULFID 88 204
 FT DISULFID 221 229
 FT MOD_RES 56 56 PHOSPHORYLATION.
 FT MOD_RES 64 64 PHOSPHORYLATION.
 FT MOD_RES 120 120 PHOSPHORYLATION.
 FT CONFLICT 61 61 D -> N (IN REF. 5).
 SO SEQUENCE 229 AA; 25792 MM; E7E9BB655A26F3D CRC64;
 Query Match 73.9%; Score 876; DB 1; Length 229;
 Best Local Similarity 72.5%; Pred. No. 5.3e-65;
 Matches 166; Conservative 26; Mismatches 35; Indels 2; Gaps 1;
 OY 1 MNIKSPWKGK--LDLLVSNLLCQSYAPLPICPGGAACQVTLRDLFDRAVLSHYIH 58
 DB 1 MDSKSSQKSGRLLLIVSNLLCQGVSTPVCNGPGNCQVSLRDLFDRAVMSHYIH 60
 OY 59 NLSSEMFSEFDKRYTHGCFITKAINSCHTSSLATPEDEKDAQOMNQDFLSIYILRS 118
 DB 61 DLSEMFNEFDKRYAQGCFITMAINSCHTSSLPPEDEKDAQOQTHHEVMSLIGLLRS 120
 OY 119 WNEPLVHYTEVRGMEAPALSKAVETFEOTKRLBSMELVSOVPHETKENETYPW 178
 DB 121 WNDPLVHYTEVRGMEAPALSKAVETFEOTKRLBSMELVSOVPHETKENETYPW 180
 OY 179 SGLPSIQMADEESRLSAYYNLHCLRDSSHKIDNYLKLKCRIRIHNNC 227
 DB 181 SGLPSIQTRDEEDARYSAFYNLHCLRDSSKIDTYLKLKNCRIIYNNC 229
 RESULT 12
 PRL_SHEEP
 ID PRL_SHEEP STANDARD; PRT; 229 AA.
 AC P01240; Q28587;
 DT 21-JUL-1986 (Rel. 01, Created)
 DT 01-MAR-1989 (Rel. 10, Last sequence update)
 DT 01-NOV-1997 (Rel. 35, Last annotation update)
 DE PROLACTIN PRECURSOR (PRL).
 GN PRL.
 OS Ovis aries (Sheep).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
 OC Bovidae; Caprinae; Ovis.
 OX NCBI_TaxID=9940;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE-Pituitary;
 RX MEDLINE=89098395; PubMed=2911473;
 RA Adams T.E., Baker L., Brandon M.R.;
 RT "Cloning and nucleotide sequence of an ovine prolactin cDNA";
 RL Nucleic Acids Res. 17:440-440(1989).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE-Pituitary;
 RX MEDLINE=89326152; PubMed=2666265;
 RA Varma S., Kwok S., Ebner K.E.;
 RT "Cloning and nucleotide sequence of ovine prolactin cDNA";
 RL Gene 77:349-359(1989).
 RN [3]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=95059806; PubMed=7969789;
 RA le Provost F., Leroux C., Martin P., Gaye P., Djiane J.;
 RT "Prolactin gene expression in ovine and caprine mammary gland";
 RL Neuroendocrinology 60:305-313(1994).
 RN [4]
 RP SEQUENCE OF 31-229.

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RX MEDLINE-71091978; PubMed-5497153;
RA L.I.C.H., Dixon J.S., Lo T.-B., Schmidt K.D., Pankov Y.A.;
RT "Studies on pituitary lactogenic hormone. xxx. The primary structure
RT of the sheep hormone."
RN Arch. Biochem. Biophys. 141:705-737(1970).
RN [5]
RP REVISIONS.
RX MEDLINE-76189476; PubMed-1270193;
RA L.I.C.H.;
RT "Studies on pituitary lactogenic hormone. The primary structure of
RT the porcine hormone."
RT Int. J. Pept. Protein Res. 8:205-224(1976).
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION, MAMMOGENESIS, MITOGENESIS AND OSMOREGULATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC -----
DR EMBL: X13483; CA31839.1;
DR EMBL: M27057; AA31578.1; ALT_INIT.
DR EMBL: X76050; CA53635.1;
DR PIR: A01509; LCSI.
DR PIR: S02104; S02104.
DR PIR: J50200; J50200.
DR HSP: Q28632; IAN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone.1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
DR KW Hormone; Parturition; Lactation; Pituitary; Signal; Glycoprotein.
FT SIGNAL 1 30
FT CHAIN 1 229 PROLACTIN.
FT DISULFID 34 41
FT DISULFID 88 204
FT DISULFID 221 229
FT CARBOHYD 61 61
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Query Match 73.8%; Score 875; DB 1; Length 229;
 Best Local Similarity 72.5%; Pred. No. 6.4e-65;
 Matches 166; Conservative 25; Mismatches 36; Indels 2; Gaps 1;

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QY 1 MNIGSPKGS--LLLLVSNLLCQSVAPLPICPGGAARCOVTLRDLFRAVYLSHYIH 58
D 1 MDSKGSAGKGRLLLLVSNLLCQGVSPVPCNPGNGQVSLRDLFRAVYLSHYIH 60
QY 59 NLSEMFSEFPKRYTHGRFTTKAINSGHTSLATPEDKEAQOQMNOKDFLSLIVSLRS 118
D 61 NLSEMFSEFPKRYTHGRFTTKAINSGHTSLATPEDKEAQOQTHHEVLSLILGLRS 120
QY 119 WNEPLVHLVTEVRGMOEPAALISKAIEIEQTKRLLEGMEFLIYGVHPETKENEIYPVW 178
D 121 WNDPLVHLVTEVRGMOEPAALISKAIEIEQTKRLLEGMEFLIYGVHPETKENEIYPVW 180
QY 179 SGLPSLOMADEESRLSYVNLHCLRDSSHIDNYLKLRCRIIHNNC 227
D 181 SGLPSLOTKEDARHSAFYNLHCLRDSSHIDNYLKLRCRIIHNNC 229

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RESULT 13
 PRL_BALBO
 ID PRL_BALBO STANDARD; PRT; 199 AA.
 AC P33089;

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DT 01-OCT-1993 (Rel. 27, Created)
DT 01-OCT-1993 (Rel. 27, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE PROLACTIN (PRL).
GN PRL.
OS Balaenoptera borealis (Sei whale).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Cetacea; Mysticeti;
OC Balaenopteridae; Balaenoptera.
OX NCBI_Taxid=9768;
RN [1]
RP SEQUENCE.
RX MEDLINE-86026530; PubMed-4052510;
RA Karaseva L.I., Pankov Y.A.;
RT "Primary structure of whale prolactin."
RT Biochimica 50:1528-1534(1985)
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC PIR: P0128; P0128.
DR HSP: Q28632; IAN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone.1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
DR KW Hormone; Parturition; Lactation; Pituitary.
FT DISULFID 4 11
FT DISULFID 58 174 BY SIMILARITY.
FT DISULFID 191 199 BY SIMILARITY.
SQ SEQUENCE 199 AA; 22812 MW; CZD18826963A45D6 CRC64;

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 Best Local Similarity 78.9%; Pred. No. 7.6e-64;
 Matches 157; Conservative 25; Mismatches 17; Indels 0; Gaps 0;

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QY 29 LPICPGGAARCOVTLRDLFRAVYLSHYIHNLSSEMFSEDPKRYTHGRFTTKAINSGHT 88
D 1 LPICPGAVNCOVSLRDLFRAVYLSHYIHNLSSEMFSEDPKRYTHGRFTTKAIDSCHT 60
QY 89 SSLATPEDKEAQOQMNOKDFLSLIVSLRSWNEPLVHLVTEVRGMOEPAALISKAIEIE 148
D 61 SSLATPEDKEAQOQTHHEVLSLILGLRSWNEPLVHLVTEVRGMOEPAALISKAIEIE 120
QY 149 EOTKRLLEGMEFLIYGVHPETKENEIYPVWSGLPSLOMADEESRLSYVNLHCLRDSSH 208
D 121 ENNRRLLEGMEFLIYGVHPETKENEIYPVWSGLPSLOMADEESRLSYVNLHCLRDSSH 180
QY 209 KIDNYLKLRCRIIHNNC 227
D 181 KIDNYLKLRCRIIHNNC 199

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RESULT 14
 PRL_MUSVI
 ID PRL_MUSVI STANDARD; PRT; 193 AA.
 AC P29234;
 DT 01-DEC-1992 (Rel. 24, Created)
 DT 01-FEB-1995 (Rel. 31, Last sequence update)
 DT 01-NOV-1997 (Rel. 35, Last annotation update)
 DE PROLACTIN (PRL) (FRAGMENT).
 GN PRL.
 OS Musela vison (American mink).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Carnivora; Fissipedia; Mustelidae; Mustela.
 OX NCBI_Taxid=9667;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE-94140110; PubMed-8307350;
 RA Pereelygina L.M., Baichava E.M., Sebeleva T.E., Kokoza V.A.;
 RT "The evolutionarily conserved gene Nc70F, expressed in nerve tissue

RT delta of Drosophila melanogaster, encodes a protein homologous to the mouse
RT delta transcription factor.".
RL Genetika 29:1597-1607(1993).
RN [2]
RP SEQUENCE OF 19-193 FROM N.A.
RC TISSUE-Pituitary;
RA Bender A.A., Golovin S.J., Mertvelsov N.P.;
RL Submitted (NOV-1991) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC or send an email to license@isb-sib.ch).
CC -----
CC EMBL: X59785; CAA42447.1; -;
CC EMBL: X63235; CAA44910.1; -;
CC PIR: S18882; S18882.
CC DR HSSP: Q28632; 1AN3.
CC DR InterPro: IPR001400; SOMATOTROPIN.
CC DR Pfam: PF00103; hormone; 1.
CC DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
CC DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
CC KW Hormone; Parturition; Lactation; Pituitary.
CC FT NON_TER 1
CC FT DISULFID 52 168 BY SIMILARITY.
CC FT DISULFID 185 193 BY SIMILARITY.
CC FT CONFLICT 40 40 H -> Q (IN REF. 2).
CC FT CONFLICT 154 154 E -> D (IN REF. 2).
CC FT CONFLICT 190 190 H -> D (IN REF. 2).
CC SQ SEQUENCE 193 AA; 22417 MW; 03BDSF6102B9DC30 CRC64;

Query Match 71.9%; Score 852; DB 1; Length 193;
Best Local Similarity 79.8%; Pred. No. 4e-63;
Matches 154; Conservative 26; Mismatches 13; Indels 0; Gaps 0;

OY 35 GAARCOVTLRDLDFRAVVLVSHYIHNLSSEMFSEDFKRYTHRGFTTKAINSCHTSLATP 94
I |||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|||||:|
D 1 GAVNCQVSLRDLDFRAVVLVSHYIHNLSSEMFSEDFKRYTHRGFTTKAINSCHTSLATP 60

OY 95 EDKRDQAQOMNCKDPLSLVSLIRSNNEPLVHYHTTEVRGMEAPKAILSKAVTIEQTKRL 154
|||||:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|
D 61 EDKRDQAQDIHEDDLNLTLLRVLRSNNDPLVHYLVSSEVRGMEAPKDISLTALEIEQNRRL 120

OY 155 LEGMELIYGVQHPETKENEIYPVMSGSLQMADEESRLAYNNLLHCRGRDSHKIDNTL 214
|||||:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|
D 121 LEGMEKIYGVQHPGVRENEVYVMSGSLQMADEESRLAFAYNLLHCRGRDSHKIDNTL 180

OY 215 KLLCKRIITHNNNC 227
|||||:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|:|
D 181 KLLCKRIYVHSNC 193

RESULT 15
ID PRL_MEIGA STANDARD: PRT: 229 AA.
AC P15752;
DT 01-AUG-1990 (Rel. 15, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DT 15-JUL-1998 (Rel. 36, Last annotation update)
DE PROLACTIN PRECURSOR (PRL).
GN PRL.
OS Meleagris gallinapavo (Common turkey).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archaeosauia; Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.
NCBI_Taxid=9103;

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[1]
RP SEQUENCE FROM N.A.
RX MEDLINE=96206340; PubMed-8618952;
RA Xu M., Proudman J.A., Plets G.R., Wong E.A., Foster D.N.,
RA el Halawani M.E.;
RT "Vasocytic intestinal peptide stimulates prolactin mRNA expression
in turkey pituitary cells: effects of dopaminergic drugs.";
RL Proc. Soc. Exp. Biol. Med. 212:52-62(1996).

[2]
RN SEQUENCE FROM N.A.
RP MEDLINE=91348480; PubMed-1879669;
RA Wong E.A., Perrin N.H., Silsby J.L., el Halawani M.E.;
RT "Cloning of a turkey prolactin cDNA: expression of prolactin mRNA
throughout the reproductive cycle of the domestic turkey (Meleagris
gallopavo).";
RL Gen. Comp. Endocrinol. 83:18-26(1991).

[3]
RN TISSUE=Pituitary;
RP SEQUENCE OF 66-229 FROM N.A.
RX MEDLINE=90272435; PubMed-2349117;
RA Karatzas C.N., Zadworny D., Kuhnlein U.;
RT "Nucleotide sequence of turkey prolactin.";
RL Nucleic Acids Res. 18:3071-3071(1990).
-1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC
DR EMBL: U05957; AAB60615.1; -.
DR EMBL: U05953; AAB60615.1; JOINED.
DR EMBL: U05854; AAB60615.1; JOINED.
DR EMBL: U05955; AAB60615.1; JOINED.
DR EMBL: U05952; AAB60604.1; -.
DR EMBL: X51769; CAA36071.1; -.
DR PIR: S10170; S10170.
DR HSSP: Q28632; IAN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone_1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary; Signal.
KW SIGNAL 1 30 BY SIMILARITY.
FT CHAIN 1 229 PROLACTIN.
FT DISULFID 34 41 BY SIMILARITY.
FT DISULFID 88 204 BY SIMILARITY.
FT DISULFID 221 229 BY SIMILARITY.
FT CONFLICT 156 156 L -> R (in Ref. 2).
SQ SEQUENCE 229 AA; 25854 MW; DEA350EB2301EF2B7 CRC64;

Query Match 66.9%; Score 793; DB 1; Length 229;
Best Local Similarity 65.9%; Pred. NO.3.4e-58;
Matches 151; Conservative 35; Mismatches 41; Indels 2; Gaps 2;

OY 1 MNIKSPKSGSL-LTLVSNLIC-QSVAPLPICGGAARCQVTLRDLFDRAVVLSHYIH 58
I : : : : : | | | | | : : : : : | : : : : : | : : : : : |
DB 1 MSNTASLSJGLLLAVLTYSNMILLTEEGVTSIPICSSGSVCNVSLGELFDRAVRLSHYIH 60
59 NISSEMESEPDKRYTHRGCFITKAINSCHTSSLATPEDEQAQQNNQKDFLSIVSIIRS 118
| : : : : : | : : : : : | : : : : : | : : : : : | : : : : : |
DB 61 FLSSIEFNFEFGRIYAQGCGFITKAVNGCHTSSILTPEDEKEQTOIHHEELINTLGIVRS 120
119 WNEPLYLHVEERGNQGEAPEALSKAVELEBOTRLLGSMELIYSQVPERFKENFIPIWV 178
| : : : : : | : : : : : | : : : : : | : : : : : | : : : : : |
DB 121 WNDPLIHIASEVQRIRKEADPTILMKAWAEIERONKRLLGEMETIGVIRHSGDAGNEVF 180

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Fri Apr 26 09:18:14 2002

us-09-815-306-1.rsp

Page 10

OY 179 SCLPSIQMDEESRLSAAYVLLCLCRDSSHKIDNYLKLKRIITHNNC 227
| | | | : | | | : | | | | | | | | | | | | | | |
Dd 181 DELPSIQLADEDSRLFAFYVLLCLCRDSSHKIDNYLKYLCRILLHNNC 229

Search completed: April 25, 2002, 11:07:36
Job time: 116 sec

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: April 25, 2002, 11:03:56 ; Search time 17.11 Seconds

(without alignments)
1010.615 Million cell updates/sec

Title: US-09-815-306-1

Perfect score: 1185
Sequence: 1 MNIGSPWKGSLLLVLSNL.....HKIDNYLKLKCRTHNNNC 227

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 219241 seqs, 76174552 residues

Total number of hits satisfying chosen parameters: 219241

Minimum DB seq length: 0
Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_68:*
1: PIR1:*
2: PIR2:*
3: PIR3:*
4: PIR4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	1185	100.0	227	1 LCHU	prolactin precursor
2	1162.5	98.1	228	1 A61402	prolactin precursor
3	953	80.4	229	1 LCPG	prolactin precursor
4	938	79.2	229	1 JG4631	prolactin precursor
5	887	74.9	199	2 S15131	prolactin - Arabid
6	876	73.9	199	1 LCHO	prolactin - horse
7	876	73.9	229	1 LCHO	prolactin precursor
8	875	73.8	229	1 LCHO	prolactin precursor
9	875	73.8	229	1 LCHO	prolactin precursor
10	861	72.7	199	2 PNO128	prolactin - goat
11	805	67.9	229	2 A60972	prolactin - sei wh
12	793	66.9	229	2 A61133	prolactin precursor
13	790.5	66.7	198	1 A60620	prolactin - green
14	772	65.1	198	2 S18882	prolactin - Americ
15	737	62.2	199	2 JS0430	prolactin - elepha
16	729.5	61.6	226	1 LCRF	prolactin precursor
17	724.5	59.1	226	2 A49159	prolactin - golden
18	705.5	59.5	228	1 LCHS	prolactin precursor
19	692.5	58.4	207	2 A60969	prolactin precursor
20	601.5	50.8	200	2 S34604	prolactin - marble
21	521	44.0	236	2 A37930	prolactin - lactogen
22	494	41.7	134	2 I51233	prolactin - lactogen
23	494	41.7	221	2 A41407	prolactin - lactogen
24	486.5	41.1	236	2 A40143	prolactin - lactogen
25	472.5	39.0	238	2 B36284	prolactin-like pro
26	462	39.0	222	2 A26489	prolactin - lactogen
27	439	37.0	237	2 A34078	prolactin-related
28	437.5	36.9	238	2 A31417	prolactin-related
29	436	36.8	221	2 A25951	prolactin - lactogen

30	416	35.1	224	2 A40919	prolactin-like pro
31	413.5	34.9	239	2 S04966	prolactin-like pro
32	410.5	34.6	224	2 A40062	lactogen I precurs
33	410	34.6	223	2 A49160	prolactin - lactogen
34	409	34.5	237	2 S14722	hypothetical prote
35	400.5	33.8	244	2 A22722	prolactin-related
36	376	31.7	213	2 B34078	prolactin-related
37	371	31.3	230	2 A37399	lactogen I precurs
38	356	30.0	224	2 S48671	prolactin - human
39	356	30.0	224	2 A05086	prolactin I precu
40	355	30.0	224	2 S05648	prolactin 3 - mou
41	350	29.5	224	2 A23159	prolactin 2 precu
42	349.5	29.5	227	2 A24911	prolactin-like pro
43	326.5	27.6	239	2 A46603	decidual prolactin
44	315.5	26.6	209	2 S30541	prolactin precursor
45	313.5	26.5	212	2 I51275	prolactin precursor

ALIGNMENTS

RESULT 1

LCHU
prolactin precursor [validated] - human

C:Species: Homo sapiens (man)

C:Date: 30-Jun-1979 #sequence_revision 23-Oct-1981 #text_change 08-Dec-2000

C:Accession: A90998; A92318; A28867; PNO089; A92177; A01505

R:Truong, A.T.; Duez, C.; Belayew, A.; Renard, A.; Pictet, R.; Bell, G.I.; Martial, J

EMBO J. 3, 429-437, 1984

A:Title: Isolation and characterization of the human prolactin gene.

A:Reference number: A90998; MUID:84182307

A:Accession: A90998

A:Molecule type: DNA

A:Residues: 1-227 <TRU>

R:Coake, N.E.; Colt, D.; Shine, J.; Baxter, J.D.; Martial, J.A.

J. Biol. Chem. 256, 4007-4016, 1981

A:Title: Human prolactin: cDNA structural analysis and evolutionary comparisons.

A:Reference number: A92318; MUID:81168179

A:Accession: A92318

A:Molecule type: mRNA

A:Residues: 1-227 <COO>

A:Cross-references: GB:V00566; GB:J00299; MUID:934210; PIDN:CAA23829.1; PID:934211

R:Takahashi, H.; Nabeshima, Y.; Nabeshima, Y.; Ogata, K.; Takeuchi, S.

J. Biochem. 95, 1491-1499, 1984

A:Title: Molecular cloning and nucleotide sequence of DNA complementary to human deci

A:Reference number: A28867; MUID:84264464

A:Accession: A28867

A:Molecule type: mRNA

A:Residues: 1-205, 'H', 207-227 <TAK>

A:Cross-references: EMBL:M29386

A:Note: the authors translated the codon CAT for residue 206 as Asp

R:Martynov, N.P.; Golovin, S.Y.; Zelenin, S.M.; Morozova, T.V.; Karginov, V.A.; Che

Bioorg. Khim. 13, 1687-1690, 1987

A:Title: Synthesis, cloning and sequencing of cDNA complementary to mRNA of prolactin

A:Reference number: PNO089; MUID:88221681

A:Accession: PNO089

A:Molecule type: mRNA

A:Residues: 45-227 <MER>

A:Experimental source: pituitary gland

A:Note: the authors translated the codon AAC for residue 15 as Asp

R:Shome, B.; Parlow, A.F.

J. Clin. Endocrinol. Metab. 45, 1112-1115, 1977

A:Title: Human pituitary prolactin (hPR): the entire linear amino acid sequence.

A:Reference number: A92162; MUID:78046207

A:Accession: A92162

A:Molecule type: protein

A:Residues: 29-109, 'YS', 112, 'L', 115-132, 'X', 134-171, 'D', 173-189, 'SE', 192-227 <SHO>

R:Jacobs, J.W.; Ntali, H.D.

J. Biol. Chem. 250, 3629-3636, 1975

A:Title: High sensitivity automated sequence determination of polypeptides.

A:Reference number: A92177; MUID:75151509

A:Accession: A92177

A:Molecule type: protein

A:Residues: 29-52, 'L' <JAC>
 C:Genetics:
 A:Gene: GDB:PRL
 A:Cross-references: GDB:119517; OMIM:176760
 A:Map position: 6p22.2-6p22.1
 A:Introns: 9/3; 68/3; 104/3; 164/3
 C:Superfamily: prolactin
 C:Keywords: anterior pituitary; hormone; lactation; placenta
 F:1-28/Domain: signal sequence #status predicted <SIG>
 F:29-227/Product: prolactin #status experimental <MAT>
 F:32-39, 86-202, 219-227/Disulfide bonds: #status predicted

Query Match 100.0%; Score 1185; DB 1; Length 227;
 Best Local Similarity 100.0%; Pred. No. 3, 5e-89;
 Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNKSPMKGSLLLVSNLLCQSVAPLPICPGCAACQVTLRDLFRAVYLSHYIHL 60
 |||||
 DB 1 MNKSPMKGSLLLVSNLLCQSVAPLPICPGCAACQVTLRDLFRAVYLSHYIHL 60
 OY 61 SEMSEFEDKRYTHGRGFTTKAINSCHTSLATPEDKEQAQOMKDFLSLIVSLRSMN 120
 |||||
 DB 61 SEMSEFEDKRYTHGRGFTTKAINSCHTSLATPEDKEQAQOMKDFLSLIVSLRSMN 120
 OY 121 EPLVHLVTEVRGMOEAPAILSKAVEIEQTRKRLLEGMLIVSOVHPETKENEIYPVWSG 180
 |||||
 DB 121 EPLVHLVTEVRGMOEAPAILSKAVEIEQTRKRLLEGMLIVSOVHPETKENEIYPVWSG 180
 OY 181 LPSIQMADEESRLSAVYNLLHCLRDSSHIDNYLKLKCRITIHNNNC 227
 |||||
 DB 181 LPSIQMADEESRLSAVYNLLHCLRDSSHIDNYLKLKCRITIHNNNC 227

RESULT 2
 A61402
 prolactin precursor, placental (clone 204) - human
 C:Species: Homo sapiens (man)
 C:Date: 09-Sep-1994 #sequence_reviston 09-Sep-1994 #text_change 16-Feb-1997
 C:Accession: A61402
 R:Hitraoka, Y.; Tatsumi, K.; Shiozawa, M.; Also, S.; Fukasawa, T.; Yasuda, K.; Miyai, K.
 Mol. Cell. Endocrinol. 75, 71-80, 1991
 A:Title: A placenta-specific 5' non-coding exon of human prolactin.
 A:Reference number: A61402; MUID:91267286
 A:Accession: A61402
 A:Status: preliminary; not compared with conceptual translation
 A:Molecule type: mRNA
 A:Residues: 1-228 <HIR>
 C:Superfamily: prolactin
 C:Keywords: alternative splicing
 F:87-203, 220-228/Disulfide bonds: #status predicted

Query Match 98.1%; Score 1162.5; DB 2; Length 228;
 Best Local Similarity 99.1%; Pred. No. 2, 3e-87;
 Matches 226; Conservative 0; Mismatches 1; Indels 1; Gaps 1;

OY 1 MNKSPMKGSLLLVSNLLCQSVAPLPICPGCAACQVTLRDLFRAVYLSHYIHL 59
 |||||
 DB 1 MNKSPMKGSLLLVSNLLCQSVAPLPICPGCAACQVTLRDLFRAVYLSHYIHL 60
 OY 60 LSSMESEFEDKRYTHGRGFTTKAINSCHTSLATPEDKEQAQOMKDFLSLIVSLRSMN 119
 |||||
 DB 61 LSSMESEFEDKRYTHGRGFTTKAINSCHTSLATPEDKEQAQOMKDFLSLIVSLRSMN 120
 OY 120 NEPLVHLVTEVRGMOEAPAILSKAVEIEQTRKRLLEGMLIVSOVHPETKENEIYPVWS 179
 |||||
 DB 121 NEPLVHLVTEVRGMOEAPAILSKAVEIEQTRKRLLEGMLIVSOVHPETKENEIYPVWS 180
 OY 180 GLPSIQMADEESRLSAVYNLLHCLRDSSHIDNYLKLKCRITIHNNNC 227
 |||||
 DB 181 GLPSIQMADEESRLSAVYNLLHCLRDSSHIDNYLKLKCRITIHNNNC 228

RESULT 3
 LCPG
 prolactin precursor - pig
 C:Species: Sus scrofa domestica (domestic pig)
 C:Date: 24-Apr-1984 #sequence_reviston 27-Jun-1994 #text_change 18-Jun-1999
 C:Accession: S04077; A60971; A01507
 R:Schulz-Aellen, M.F.; Schmidt, E.; Movva, R.N.
 Nucleic Acids Res. 17, 3295, 1989
 A:Title: Nucleotide sequence of porcine preprolactin cDNA.
 A:Reference number: S04077; MUID:89263739
 A:Accession: S04077
 A:Molecule type: mRNA
 A:Residues: 1-229 <SCH>
 A:Cross-references: EMBL:X14068; NID:92082; PIDN:CAA32231.1; PID:92083
 R:Kato, Y.; Hirai, T.; Kato, T.
 J. Mol. Endocrinol. 4, 135-142, 1990
 A:Title: Molecular cloning of cDNA for porcine prolactin precursor.
 A:Reference number: A60971; MUID:90262633
 A:Accession: A60971
 A:Molecule type: protein
 A:Residues: 1-3, 'R', 'S', 'X', '7-42', 'V', '44-229 <KAT>
 R:Li, C.H.
 Int. J. Pept. Protein Res. 8, 205-224, 1976
 A:Title: Studies on pituitary lactogenic hormone. The primary structure of the porcine
 A:Reference number: A91770; MUID:76189476
 A:Accession: A01507
 A:Molecule type: protein
 A:Residues: 31-42, 'V', '44-151', 'E', '153-225', 'N', '227-229 <LIC>
 C:Superfamily: prolactin
 C:Keywords: anterior pituitary; hormone; lactation; placenta
 F:1-30/Domain: signal sequence #status predicted <SIG>
 F:31-229/Product: prolactin #status experimental <MAT>
 F:34-41, 88-204, 221-229/Disulfide bonds: #status experimental

Query Match 80.4%; Score 953; DB 1; Length 229;
 Best Local Similarity 79.0%; Pred. No. 2, 6e-70;
 Matches 181; Conservative 24; Mismatches 22; Indels 2; Gaps 1;

OY 1 MNKSPMKGS-LLLVSNLLCQSVAPLPICPGCAACQVTLRDLFRAVYLSHYIH 58
 |||||
 DB 1 MDNTGSSQKGSLLLVSNLLCQSVAPLPICPGCAACQVTLRDLFRAVYLSHYIH 60
 OY 59 NLSEMESEFEDKRYTHGRGFTTKAINSCHTSLATPEDKEQAQOMKDFLSLIVSLRS 118
 |||||
 DB 61 NLSEMESEFEDKRYTHGRGFTTKAINSCHTSLATPEDKEQAQOMKDFLSLIVSLRS 120
 OY 119 WNEPLVHLVTEVRGMOEAPAILSKAVEIEQTRKRLLEGMLIVSOVHPETKENEIYPVW 178
 |||||
 DB 121 WNEPLVHLVTEVRGMOEAPAILSKAVEIEQTRKRLLEGMLIVSOVHPETKENEIYPVW 180
 OY 179 SGPLSIQMADEESRLSAVYNLLHCLRDSSHIDNYLKLKCRITIHNNNC 227
 |||||
 DB 181 SGPLSIQMADEESRLSAVYNLLHCLRDSSHIDNYLKLKCRITIHNNNC 229

RESULT 4
 JC4631
 prolactin precursor - cat
 C:Species: Felis silvestris catus (domestic cat)
 C:Date: 10-Apr-1996 #sequence_reviston 24-May-1996 #text_change 16-Jul-1999
 C:Accession: JC4631
 R:Marren, W.C.; Bentle, K.A.; Bogostian, G.
 Gene 168, 247-249, 1996
 A:Title: Cloning of the cDNAs coding for cat growth hormone and prolactin.
 A:Reference number: JC4631; MUID:96194906
 A:Accession: JC4631
 A:Molecule type: mRNA
 A:Residues: 1-229 <MAR>
 A:Cross-references: GB:U25974; NID:98257770; PIDN:AAA67295.1; PID:98257771
 A:Experimental source: pituitary
 C:Genetics:

A: Molecule type: protein
 B: Residues: 50-73 <TRA>
 C: Comment: This protein is a peptide hormone secreted by the anterior pituitary and has
 C: Superfamily: prolactin
 E: Keywords: anterior pituitary; glycoprotein; hormone; lactation; placenta
 F: 1-30/domain: signal sequence #status predicted <SIG>
 F: 31-228/product: prolactin #status predicted <MAP>
 F: 34-41, 88-204, 221-229/disulfide bonds: #status experimental
 F: 61/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match	73.8%	Score 875	DB 1:	Length 229
Best Local Similarity	72.5%	Pred. No. 5, 7e-64		
Matches 166; Conservative	25;	Mismatches 36;	Indels 2;	Gaps 1;

[illegible]

RESULT 9
I83982
prolactin - goat
C:Species: Capra aegagrus hircus (domestic goat)
C:Date: 21-Feb-1997 #sequence_revision 21-Feb-1997 #text_change 16-Jul-1999
C:Accession: I83982
R:Le Provost, F.; Leroux, C.; Mattin, P.; Gaye, P.; Djiane, J.
Neuroendocrinology 60, 305-313, 1994
A:Title: Prolactin gene expression in ovine and caprine mammary gland.
A:Reference number: I60543; MUID:95059806
A:Accession: I83982
A:Status: preliminary; translated from GB/EMBL/DBJ
A:Molecule type: mRNA
A:Residues: 1-229 <LEX>
A:Cross-references: EMBL:X76048; NID:g551229; PIDN:CA53633.1; PID:g551230
A:Superfamily: prolactin

Query Match	73.8%	Score 875;	DB 2;	length 229;
Best Local Similarity	72.5%	Pred. NO. 5.7e-64;		
Matches 166;	Conservative 25;	Mismatches 36;	Indels 2;	Gaps 1

[illegible]

RESULT 10
PN0128

prolactin - sei whale
C:Species: Balaenoptera borealis (sei whale)
C:Date: 07-May-1993 #sequence_revision 07-May-1993 #text_change 07-May-1999
C:Accession: PNO128
R:Karaseva, L.I.; Pankov, Y.A.
B:Okhmita 50, 1528-1534, 1985
A>Title: Primary structure of sea whale prolactin.
A:Reference number: PNO128; MUID:86026530
A:Accession: PNO128
A:Molecule type: protein
A:Residues: 1-199 <KAR>
A:Note: article in Russian with English abstract
C:Superfamily: prolactin
C:Keywords: anterior pituitary; hormone; lactation; placenta
F:4-11,58-174,191-199/Disulfide bonds: #status predicted

Query Match	72.7%	Score 861	DB 2	Length 189
Best Local Similarity	78.9%	Pred. No. 6.5e-63		
Matches 157; Conservative	25;	Mismatches 17;	Indels 0;	Gaps 0;

QY	29	LPICGGCAACOVLTJRLDLEDAVLSHSHIHLSEMSESEPEKRTYHGRGFTTKINSCHT	88
Db	1	LPICSGAVNQCVSRLDLEDAVLSHSHIHLSEMSENEPEKRRYAQGRGFTTKIDSCHT	60
QY	89	SSLATPEDEKQAOQNNQKDFLSLIVSILRSVNEPLVHLVTEVGMQEAPEALISKAVEIE	148
Db	61	SSLQTPPEDEKQAOQZIHHEVLSLILGIVLRSVNNBPLVHLVTEVGMQEAPOALISRAQIE	120
QY	149	EQTKLLLEGGMELIYSQVAPETKENEITYVWSGGLPSLQMADEESLSAYNNLHCLRDSDH	208
Db	121	ENKRLLEGGMELIYQVAPVGVKENEVEYSVWSGGLPSLQMADEETRLFAFYDLLHCLRDSDH	180
QY	209	KIDNYLKLKLCRIIHNNNC	227
Db	181	KIDSYLKLKLCRIIYNSNC	199

RESULT 11
A60972
prolactin precursor - chicken
C:Species: Gallus gallus (chicken)
C:Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 16-Jul-1999
C:Accession: A60972; A32855
R:Hanks, M.C.; Alonzi, J.A.; Sharp, P.J.; Sang, H.M.
J. Mol. Endocrinol. 2, 21-30, 1989
A:Title: Molecular cloning and sequence analysis of putative chicken prolactin cDNA
A:Reference number: A60972; M0ID:893151

A: Status: not compared with conceptual translation
A: Molecule type: mRNA
A: Residues: 1-229 <HAN>
R: Watachili, M.; Tanaka, M.; Masuda, N.; Sugisaki, K.; Yamamoto, M.; Yamakawa, M.; Nag

A>Title: Primary structure of chicken pituitary prolactin deduced from the cDNA sequence
A.Reference number: A32855; MUID:89174595
A.Accession: A32855
A.Molecule type: mRNA
A.Residues: 1-170, 'H', 172-179, 'S', 181-204, 'H', 206-229 <WAT>
A.Cross-references: GB:J04614; NID:g212612; PID:AAA09400.1; PID:g212613
A.Comment: The reason for differences between the two reports is unclear. Prolactin from turkey at each position in which the two references above disagree.
C.Superfamily: prolactin
F.1-30/Domain: signal sequence #status predicted <SIG>
F.31-229/Product: prolactin #status predicted <WAT>
F.34-41, 88-204, 221-229/Disulfide bonds: #status predicted

Query Match	67.9%	Score 805	DB 2	Length 229
Best Local Similarity	67.7%	Pred. No. 2.8e-58		
Matches 155	Conservative 32	Mismatches 40	Indels 2	Gaps 2

QY 1 MNIKGSPWKGSLL-LLVSNLLC-QSVAPLPICPGAARCQVTLRDLFDRAVLSHYIH 58

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Db      1 MSNRGASLKGLFLAVLLVSNLTLLTKEGVTSLPICPGSVNCOVSLGEFDRAVKLSHYIH 60
QY      59 NLSSEMFSEDPKRYTHRGFTITKAINSCHTSLATPEDEKQAQOMQKDFLSIVLSILRS 118
        61 YLSSEIFNEDEERYAOGRGFTTKAVNGCHTSSLTPEDKEQAQOIHEDLLNLVGVLS 120
QY      119 WNEPLVHLVTEVRGMOEAPAILSKAVEIEEOTKRLLEGMLIVSQVHPETKENETYPVW 178
        121 WNDPLHLHLSAEVORIKAEPTITMKAVEIEEOKRLLEGMEKTVGRVHSGDAGNETIYSHW 180
QY      179 SGLPSIQMADEESRLSAVYNLHCLRRDSHKIDNYLKLKCRITIHNNC 227
        181 DGLPSIQLADEDSRLFAFYNLHCLRRDSHKIDNYLKLKCRITIHNNC 229

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RESULT 12

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prolactin precursor - turkey
C:Species: Meleagris gallopavo (common turkey)
C>Date: 10-Mar-1994 #sequence_revision 07-Apr-1994 #text_change 11-May-2000
C:Accession: A61133; S10170; A61528
R:Wong, E.A.; Ferrin, N.H.; Slaby, J.L.; El Halawani, M.E.
Gen. Comp. Endocrinol. 83, 18-26, 1991
A>Title: Cloning of a turkey prolactin cDNA: expression of prolactin mRNA throughout the
A:Reference number: A61133; MUID:91348480
A:Accession: A61133
A:Molecule type: mRNA
A:Residues: 1-155, 'R', 157-229 <MO2>
A:Cross-references: GB:005952; NID:9454094; PIDN:AB60604.1; PID:9454095
R:Karatzis, C.N.; Zadworny, D.; Kuhnlein, U.
Nucleic Acids Res. 18, 3071, 1990
A>Title: Nucleotide sequence of turkey prolactin.
A:Reference number: S10170; MUID:90272435
A:Accession: S10170
A:Molecule type: mRNA
A:Residues: 21-229 <KAR>
A:Cross-references: EMBL:X51769; NID:964095; PIDN:CAA36071.1; PID:964096
R:Corcoran, D.H.; Proudman, J.A.
Comp. Biochem. Physiol. B 99, 563-570, 1991
A>Title: Isoforms of turkey prolactin: evidence for differences in glycosylation and in
A:Reference number: A61528; MUID:92119931
A:Accession: A61528
A:Molecule type: protein
A:Residues: 31-70 <COR>
C:Superfamily: prolactin
C:Keywords: hormone; pituitary
F:1-30/Domains: signal sequence #status predicted <SIG>
F:31-229/Product: prolactin #status predicted <MAT>
F:34-41, 88-204, 221-229/Disulfide bonds: #status predicted

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Query Match      66.9%; Score 793; DB 2; Length 229;
Best Local Similarity 65.9%; Pred. No. 2,6e-57;
Matches 151; Conservative 35; Mismatches 41; Indels 2; Gaps 2;

```

```

QY      1 MNINGSPPKGSLL-LLVSNLLC-QSVAPLPICGACRCOAVTLRDLFRAVYLSHYIH 58
        1 MSNMGASLKGLLAVLLVSNLTLLTKEGVTSLPICSSGVNCOVSLGEFDRAVKLSHYIH 60
QY      59 NLSSEMFSEDPKRYTHRGFTITKAINSCHTSLATPEDEKQAQOMQKDFLSIVLSILRS 118
        61 FLSEIFNEDEERYAOGRGFTTKAVNGCHTSSLTPEDKEQAQOIHEDLLNLVGVLS 120
QY      119 WNEPLVHLVTEVRGMOEAPAILSKAVEIEEOTKRLLEGMLIVSQVHPETKENETYPVW 178
        121 WNDPLHLHLSAEVORIKAEPTITMKAVEIEEOKRLLEGMEKTVGRVHSGDAGNETIYSHW 180
QY      179 SGLPSIQMADEESRLSAVYNLHCLRRDSHKIDNYLKLKCRITIHNNC 227
        181 DGLPSIQLADEDSRLFAFYNLHCLRRDSHKIDNYLKLKCRITIHNNC 229

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RESULT 13
prolactin - green sea turtle
C:Species: Chelonia mydas (green sea turtle)
C>Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 31-Dec-1993
C:Accession: A60620
R:Yasuda, A.; Kawachi, H.; Papkoff, H.
Gen. Comp. Endocrinol. 80, 363-371, 1990
A>Title: The complete amino acid sequence of prolactin from the sea turtle (Chelonia
A:Reference number: A60620; MUID:91146884
A:Accession: A60620
A:Molecule type: protein
A:Residues: 1-198 <YAS>
A>Note: 55-Leu, 145-Val, 148-Arg, and 171-Met were also found
C:Superfamily: prolactin
C:Keywords: hormone; pituitary
F:4-11,58-173,190-198/Disulfide bonds: #status experimental

```

```

Query Match      66.7%; Score 790.5; DB 1; Length 198;
Best Local Similarity 73.4%; Pred. No. 3.5e-57;
Matches 146; Conservative 26; Mismatches 26; Indels 1; Gaps 1;

```

```

QY      29 LPICGGAARCOVTLRDLFRAVYLSHYIHNLSEMFSEDPKRYTHRGFTITKAINSCHT 88
        1 LPICSGSVGCOVSLLENLFDRAVYLSHYIHLSSEMFSEDEERYAOGRGFTTKAINGCHT 60
QY      89 SLATPEDEKQAQOMQKDFLSIVLSRWNPEPLVTEVRGMOEAPAILSKAVEIE 148
        61 SLLTPEDKEQAQOIHEDLLNLVGVLSRWNPDPLHLVSEVQSIKEAPDTIL-KAVEIE 119
QY      149 EOTKRLLEGMLIVSQVHPETKENETYPVWGSGLPSIQMADEESRLSAVYNLHCLRRDSH 208
        120 EODKRLLEGMEKTVGRVHSGDAGNETIYSHWGSGLPSIQMADEESRLFAFYNLHCLRRDSH 179
QY      209 KIDNYLKLKCRITIHNNC 227
        180 KIDNYLKLKCRITIHNNC 198

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```

RESULT 14
prolactin - American mink (fragment)
C:Species: Mustela vison (American mink)
C>Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 16-Jul-1999
C:Accession: S18882
R:Bondar, A.A.; Golovin, S.J.; Mertvelsov, N.P.
submitted to the EMBL Data Library, November 1991
A:Reference number: S18882
A:Accession: S18882
A>Status: preliminary
A:Molecule type: mRNA
A:Residues: 1-175 <BON>
A:Cross-references: EMBL:X63235; NID:91182; PIDN:CAA44910.1; PID:91183
C:Superfamily: prolactin

```

```

Query Match      65.1%; Score 772; DB 2; Length 175;
Best Local Similarity 80.0%; Pred. No. 9.6e-56;
Matches 140; Conservative 23; Mismatches 12; Indels 0; Gaps 0;

```

```

QY      53 LSHYIHNLSEMFSEDPKRYTHRGFTITKAINSCHTSLATPEDEKQAQOMQKDFLSIL 112
        1 LSHYIHNLSEMFSEDPKRYTHRGFTITKAINSCHTSLATPEDEKQAQOIHEDLLNL 60
QY      113 VSLIRSNPEPLVTEVRGMOEAPAILSKAVEIEEOTKRLLEGMLIVSQVHPETKEN 172
        61 LSVLRSNPEPLVTEVRGMOEAPDSILSLAIEEONRLLEGMEKTVGRVHSGDAGNETIYSHW 120
QY      173 EIVPVWGSGLPSIQMADEESRLSAVYNLHCLRRDSHKIDNYLKLKCRITIHNNC 227
        121 EIVSVWGSGLPSIQMADEESRLFAFYNLHCLRRDSHKIDNYLKLKCRITIHNNC 175

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This Page Blank (uspto)

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: April 25, 2002, 11:03:55 ; Search time 12.65 Seconds

(without alignments)
403.814 Million cell updates/sec

Title: US-09-815-306-1

Perfect score: 1185
Sequence: 1 MNKIGSPWKGSLLLVSNL.....HKIDNYLKLKRIIHNNC 227Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 212252 seqs, 22503292 residues

Total number of hits satisfying chosen parameters: 212252

Minimum DB seq length: 0
Maximum DB seq length: 200000000Post-processing: Minimum Match 0%
Maximum Match 100%

Listing first 45 summaries

Database : Issued_Patents_AA:*
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2: /cgn2_6/ptodata/2/1aa/5B.COMB.pep:*
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Pred. NO. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1043	88.0	199	3	US-08-737-248-7
2	1043	88.0	351	1	US-08-196-350-1
3	887	74.9	199	3	US-08-737-248-10
4	877	74.0	199	3	US-08-737-248-12
5	876	73.9	199	3	US-08-737-248-8
6	871	73.5	199	3	US-08-737-248-14
7	797	67.3	199	3	US-08-737-248-13
8	796	67.2	199	3	US-08-737-248-11
9	786.5	66.4	198	3	US-08-737-248-6
10	754	63.6	199	3	US-08-737-248-2
11	754	63.6	426	3	US-08-737-248-4
12	748	63.1	199	3	US-08-737-248-5
13	737	62.2	199	3	US-08-737-248-9
14	667	56.3	197	3	US-08-737-248-15
15	667	56.3	197	3	US-08-737-248-17
16	630	53.2	125	3	US-08-985-526-25
17	630	53.2	253	3	US-08-985-526-27
18	621	52.4	197	3	US-08-737-248-16
19	370	31.2	199	3	US-08-737-248-23
20	280	23.6	187	3	US-08-737-248-18
21	280	23.6	187	3	US-08-737-248-19
22	270	22.8	177	3	US-08-737-248-21
23	269.5	22.7	188	3	US-08-737-248-20
24	263	22.2	236	4	US-09-602-848-2
25	245	20.7	223	4	US-09-602-848-4
26	213.5	18.0	231	1	US-07-656-566-3
27	210.5	17.8	207	1	US-07-656-566-2

28	206	17.4	191	3	US-08-737-248-22	Sequence 22, Appl
29	204.5	17.3	217	3	US-08-589-028-10	Sequence 10, Appl
30	204.5	17.3	217	3	US-08-784-582-10	Sequence 10, Appl
31	204.5	17.3	217	4	US-08-785-271-10	Sequence 11, Appl
32	204.5	17.3	217	4	US-08-759-628-11	Sequence 51, Appl
33	201.5	17.0	217	1	US-08-469-486-51	Sequence 51, Appl
34	201.5	17.0	217	2	US-08-469-658-51	Sequence 51, Appl
35	198.5	16.8	217	2	US-09-105-651-2	Sequence 2, Appl
36	193.5	16.3	217	1	US-08-187-756C-4	Sequence 4, Appl
37	193.5	16.3	217	2	US-08-710-324A-4	Sequence 4, Appl
38	192	16.2	191	1	US-08-093-383-3	Sequence 3, Appl
39	190	16.0	191	1	US-07-885-689A-29	Sequence 29, Appl
40	190	16.0	193	2	US-08-383-621-2	Sequence 2, Appl
41	190	16.0	193	3	US-08-459-906-2	Sequence 2, Appl
42	190	16.0	199	1	US-07-801-164A-4	Sequence 4, Appl
43	187.5	15.8	216	2	US-09-105-651-1	Sequence 11, Appl
44	186	15.7	198	1	US-08-187-756C-5	Sequence 5, Appl
45	186	15.7	198	2	US-08-710-324A-5	Sequence 5, Appl

ALIGNMENTS

RESULT 1
US-08-737-248-7
Sequence 7, Application US/08737248
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: Zadworny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
NUMBER OF SEQUENCES: 23
TREATING BIRD BROODINESS
CORRESPONDENCE ADDRESS:
ADDRESSEE: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-APR-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 989,6411P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8363
TELEFAX: 215-875-8394
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
LENGTH: 199 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-737-248-7

Query Match 88.0%; Score 1043; DB 3; Length 199;
Best Local Similarity 100.0%; Pred. No. 2.3e-99;
Matches 199; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 29 LPICPGGAACQVTLRDLFRAVAVLSHYIHNLSSEMFSEFDKRYTHGRGFTTKAINSCHT 88
DB 1 LPICPGGAACQVTLRDLFRAVAVLSHYIHNLSSEMFSEFDKRYTHGRGFTTKAINSCHT 60

QY 89 SSLATPEDEKQAOQMNQKDFLSLIVSLRSWNEPLYHLVTEVNGQEAPEALISKAVEIE 148
DB 61 SSLATPEDEKQAOQMNQKDFLSLIVSLRSWNEPLYHLVTEVNGQEAPEALISKAVEIE 120

QY 149 EQRKRLLEGMEELIVSQVHETKENETYPWVSGPLSQMADEESRLSAYVNLHLCLRDH 208
DB 121 EQRKRLLEGMEELIVSQVHETKENETYPWVSGPLSQMADEESRLSAYVNLHLCLRDH 180

QY 209 KIDNYLKLKCRITIHNNC 227
DB 181 KIDNYLKLKCRITIHNNC 199

RESULT 2
US-08-196-350-1
; Sequence 1, Application US/08196350
; Patent No. 5585099
; GENERAL INFORMATION:
; APPLICANT: Richards, Sue
; APPLICANT: Kaplan, Joanne
; APPLICANT: Mosciak, Richard
; TITLE OF INVENTION: PROLACTIN AS ADJUVANT
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Brad Salcedo
; STREET: One Kendall Square
; CITY: Cambridge
; STATE: MA
; COUNTRY: U.S.A.
; ZIP: 02139
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/196,350
; FILING DATE:
; CLASSIFICATION: 424
; ATTORNEY/AGENT INFORMATION:
; NAME: Gosz, William G
; REGISTRATION NUMBER: 27,787
; REFERENCE/DOCKET NUMBER: GEN 4-1.0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 6172527868
; TELEFAX: 6173747225
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 351 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ANTI-SENSE: NO
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
; ORGANISM: human prolactin
US-08-196-350-1

Query Match 88.0%; Score 1043; DB 1; Length 351;
Best Local Similarity 100.0%; Pred. No. 5.3e-99;
Matches 199; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 29 LPICPGGAACQVTLRDLFRAVAVLSHYIHNLSSEMFSEFDKRYTHGRGFTTKAINSCHT 88

DB 153 LPICPGGAACQVTLRDLFRAVAVLSHYIHNLSSEMFSEFDKRYTHGRGFTTKAINSCHT 212

QY 89 SSLATPEDEKQAOQMNQKDFLSLIVSLRSWNEPLYHLVTEVNGQEAPEALISKAVEIE 148
DB 213 SSLATPEDEKQAOQMNQKDFLSLIVSLRSWNEPLYHLVTEVNGQEAPEALISKAVEIE 272

QY 149 EQRKRLLEGMEELIVSQVHETKENETYPWVSGPLSQMADEESRLSAYVNLHLCLRDH 208
DB 273 EQRKRLLEGMEELIVSQVHETKENETYPWVSGPLSQMADEESRLSAYVNLHLCLRDH 332

QY 209 KIDNYLKLKCRITIHNNC 227
DB 333 KIDNYLKLKCRITIHNNC 351

RESULT 3
US-08-737-248-10
; Sequence 10, Application US/08737248
; Patent No. 6114305
; GENERAL INFORMATION:
; APPLICANT: Guemene, Daniel
; APPLICANT: Zadworny, David
; APPLICANT: Karatzas, Costas
; TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
; NUMBER OF SEQUENCES: 23
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: WEISER & ASSOCIATES
; STREET: 230 South Fifteenth Street, Suite 500
; CITY: Philadelphia
; STATE: PA
; COUNTRY: USA
; ZIP: 19102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/737,248
; FILING DATE: 28-APR-1997
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/FR95/00576
; FILING DATE: 03-MAY-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: FR 94/05550
; FILING DATE: 05-MAY-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Weiser, Gerard J.
; REGISTRATION NUMBER: 19,763
; REFERENCE/DOCKET NUMBER: 989.6411P
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 215-875-8383
; TELEFAX: 215-875-8394
; INFORMATION FOR SEQ ID NO: 10:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 199 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-737-248-10

Query Match 74.9%; Score 887; DB 3; Length 199;
Best Local Similarity 81.4%; Pred. No. 2.4e-83;
Matches 162; Conservative 22; Mismatches 15; Indels 0; Gaps 0;

QY 29 LPICPGGAACQVTLRDLFRAVAVLSHYIHNLSSEMFSEFDKRYTHGRGFTTKAINSCHT 88
DB 1 LPICPGGAACQVTLRDLFRAVAVLSHYIHNLSSEMFSEFDKRYTHGRGFTTKAINSCHT 60

RESULT 6
US-08-737-248-14
; Sequence 14, Application US/08737248
; Patent No. 6117305

Query Match	73.5%	Score 871;	DB 3;	Length 199;
Best Local Similarity	80.9%	Pred. No. 1e-81;		
Matches 161; Conservative	20;	Mismatches 18;	Indels 0;	Gaps 0

3

RESULT 7
US-08-737-248-13
; Sequence 13, Application US/08737248
Data4w- 011007

Query Match	67.38;	Score 797;	DB 3;	Length 199;
Best Local Similarity	73.78;	Pred. No. 4, 1e-74;		
Matches 146;	Conservative 24;	Mismatches 28;	Indels 0;	Gaps 0;

1

OY 210 IDNYLKLKCRTHNNNC 227
Db 182 IDTYLKLKCRTHNNNC 199

RESULT 8

US-08-737-248-11
; Sequence 11, Application US/08737248
; Patent No. 6114305
; GENERAL INFORMATION:
; APPLICANT: Guemene, Daniel
; APPLICANT: Zadworny, David
; APPLICANT: Karatzas, Costas
; TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
; TITLE OF INVENTION: TREATING BIRD BROODINESS
; NUMBER OF SEQUENCES: 23
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: WEISER & ASSOCIATES
; STREET: 230 South Fifteenth Street, Suite 500
; CITY: Philadelphia
; STATE: PA
; COUNTRY: USA
; ZIP: 19102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/737,248
; FILING DATE: 28-APR-1997
; CLASSIFICATION: 424
; PRIOR APPLICATION NUMBER: PCT/FR95/00576
; FILING DATE: 03-MAY-1995
; APPLICATION DATA:
; APPLICATION NUMBER: FR 94/05550
; FILING DATE: 05-MAY-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Weiser, Gerard J.
; REGISTRATION NUMBER: 19,763
; TELEPHONE: 215-875-8394
; TELEFAX: 215-875-8394
; INFORMATION FOR SEQ ID NO: 11:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 199 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-737-248-11

Query Match 67.2%; Score 796; DB 3; Length 199;
Best Local Similarity 73.7%; Pred. No. 5.1e-74;
Matches 146; Conservative 23; Mismatches 29; Indels 0; Gaps 0;

OY 30 PICPGGAAACVLTLDLFDRAVVLSHYTHNLSSMFSEFDKRYTHRGFTTKAINSCHTS 89
Db 2 PVPNGPNCVSLRDLFDRAVVMVSHYTHNLSSMFSEFDKRYTHRGFTTKAINSCHTS 61
OY 90 SLATPEDEKQAQOQTHHEVLMSTLILGLRSWMDPLHLVTEVGMKGVPDALLSKAVEIEE 149
Db 62 SLATPEDEKQAQOQTHHEVLMSTLILGLRSWMDPLHLVTEVGMKGVPDALLSKAVEIEE 121
OY 150 QTRKLLGEMELIVSQVHPETKRENEIYPWVSGLPQLQMADEBSRLSAYYNLLHCLRDSSH 209
Db 122 ENKRLLEGMEIVGQVHPGKETEPYPWVSGLPQLQMADEBSRLSAYYNLLHCLRDSSH 181
OY 210 IDNYLKLKCRTHNNNC 227

Db 182 IDTYLKLKCRTHNNNC 199

RESULT 9

US-08-737-248-6
; Sequence 6, Application US/08737248
; Patent No. 6114305
; GENERAL INFORMATION:
; APPLICANT: Guemene, Daniel
; APPLICANT: Zadworny, David
; APPLICANT: Karatzas, Costas
; TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
; TITLE OF INVENTION: TREATING BIRD BROODINESS
; NUMBER OF SEQUENCES: 23
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: WEISER & ASSOCIATES
; STREET: 230 South Fifteenth Street, Suite 500
; CITY: Philadelphia
; STATE: PA
; COUNTRY: USA
; ZIP: 19102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/737,248
; FILING DATE: 28-APR-1997
; CLASSIFICATION: 424
; PRIOR APPLICATION NUMBER: PCT/FR95/00576
; FILING DATE: 03-MAY-1995
; APPLICATION DATA:
; APPLICATION NUMBER: FR 94/05550
; FILING DATE: 05-MAY-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Weiser, Gerard J.
; REGISTRATION NUMBER: 19,763
; TELEPHONE: 215-875-8394
; TELEFAX: 215-875-8394
; INFORMATION FOR SEQ ID NO: 6:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 198 amino acids
; TYPE: amino acid
; STRANDEDNESS:
; TOPOLOGY: linear
; MOLECULE TYPE: protein
US-08-737-248-6

Query Match 66.4%; Score 786.5; DB 3; Length 198;
Best Local Similarity 72.9%; Pred. No. 4.8e-73;
Matches 145; Conservative 26; Mismatches 27; Indels 1; Gaps 1;

OY 29 LPICPGGAAACVLTLDLFDRAVVLSHYTHNLSSMFSEFDKRYTHRGFTTKAINSCHT 88
Db 1 LPVCPGSGVCCVSLRDLFDRAVVMVSHYTHNLSSMFSEFDKRYTHRGFTTKAINSCHT 60
OY 89 SLATPEDEKQAQOQTHHEVLMSTLILGLRSWMDPLHLVTEVGMKGVPDALLSKAVEIEE 148
Db 61 SLATPEDEKQAQOQTHHEVLMSTLILGLRSWMDPLHLVTEVGMKGVPDALLSKAVEIEE 119
OY 149 EOTKRLLEGEMELIVSQVHPETKRENEIYPWVSGLPQLQMADEBSRLSAYYNLLHCLRDSSH 208
Db 120 EODKRLLEGEMELIVSQVHPGKETEPYPWVSGLPQLQMADEBSRLSAYYNLLHCLRDSSH 179
OY 209 KIDNYLKLKCRTHNNNC 227
Db 180 KIDNYLKLKCRTHNNNC 198

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RESULT 10
US-08-737-248-2
; Sequence 2, Application US/08737248
; Patent No. 6114305
; GENERAL INFORMATION:
; APPLICANT: Guemene, Daniel
; APPLICANT: Zadmorny, David
; APPLICANT: Karatzas, Costas
; TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
; TITLE OF INVENTION: TREATING BIRD BROODINESS
; NUMBER OF SEQUENCES: 23
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: WEISER & ASSOCIATES
; STREET: 230 South Fifteenth Street, Suite 500
; CITY: Philadelphia
; STATE: PA
; COUNTRY: USA
; ZIP: 19102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/737,248
; FILING DATE: 28-APR-1997
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/FR95/00576
; FILING DATE: 03-MAY-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: FR 94/05550
; FILING DATE: 05-MAY-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Weiser, Gerard J.
; REGISTRATION NUMBER: 19,763
; REFERENCE/DOCKET NUMBER: 989,6411P
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 215-875-8383
; TELEFAX: 215-875-8394
; INFORMATION FOR SEQ ID NO: 2:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 199 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-737-248-2

Query Match 63.6%; Score 754; DB 3; Length 199;
Best Local Similarity 68.8%; Pred. No. 1e-69;
Matches 137; Conservative 30; Mismatches 32; Indels 0; Gaps 0;

QY 29 LPICGGAARCOVTLRDLFRAVAVLSHYIHNLSEMFSEFDKRYTHGCGFTTKAINSCHT 88
DB 1 LPICSSGVNCOVSLGELFDRVAVLSHYIHNLSEMFSEFDKRYTHGCGFTTKAINSCHT 60
QY 89 SSLATPEDEKQAQOMNOKDFSLVLSIRSWNEPLVHLVTEVRGMOAPEALISKAVEIE 148
DB 61 SLLTPEDKEQTOQHHEBELNLILGLVRSWNPDLHLASEVQRTKEAPDTILMKAVEIE 120
QY 149 EOTRLLGEMELIVSQVHPETRENEIYVWSGLPSLOMADEESRLSAVYNLLHCLRRDSH 208
DB 121 EONKRLLEGMEKIVGRISHGAGNEVFSQMDGLPSLQIADSDSLFAFYNLHCLRRDSH 180
QY 209 KIDNYLKLKLCRIITHNNC 227
DB 181 KIDNYLKLKLCRIITHNNC 199

RESULT 11
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US-08-737-248-4
; Sequence 4, Application US/08737248
; Patent No. 6114305
; GENERAL INFORMATION:
; APPLICANT: Guemene, Daniel
; APPLICANT: Zadmorny, David
; APPLICANT: Karatzas, Costas
; TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
; TITLE OF INVENTION: TREATING BIRD BROODINESS
; NUMBER OF SEQUENCES: 23
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: WEISER & ASSOCIATES
; STREET: 230 South Fifteenth Street, Suite 500
; CITY: Philadelphia
; STATE: PA
; COUNTRY: USA
; ZIP: 19102
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patent Release #1.0, Version #1.30
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/737,248
; FILING DATE: 28-APR-1997
; CLASSIFICATION: 424
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: PCT/FR95/00576
; FILING DATE: 03-MAY-1995
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: FR 94/05550
; FILING DATE: 05-MAY-1994
; ATTORNEY/AGENT INFORMATION:
; NAME: Weiser, Gerard J.
; REGISTRATION NUMBER: 19,763
; REFERENCE/DOCKET NUMBER: 989,6411P
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 215-875-8383
; TELEFAX: 215-875-8394
; INFORMATION FOR SEQ ID NO: 4:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 426 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: protein
; US-08-737-248-4

Query Match 63.6%; Score 754; DB 3; Length 426;
Best Local Similarity 68.8%; Pred. No. 3.1e-69;
Matches 137; Conservative 30; Mismatches 32; Indels 0; Gaps 0;

QY 29 LPICGGAARCOVTLRDLFRAVAVLSHYIHNLSEMFSEFDKRYTHGCGFTTKAINSCHT 88
DB 228 LPICSSGVNCOVSLGELFDRVAVLSHYIHNLSEMFSEFDKRYTHGCGFTTKAINSCHT 287
QY 89 SSLATPEDEKQAQOMNOKDFSLVLSIRSWNEPLVHLVTEVRGMOAPEALISKAVEIE 148
DB 288 SLLTPEDKEQTOQHHEBELNLILGLVRSWNPDLHLASEVQRTKEAPDTILMKAVEIE 347
QY 149 EOTRLLGEMELIVSQVHPETRENEIYVWSGLPSLOMADEESRLSAVYNLLHCLRRDSH 208
DB 348 EONKRLLEGMEKIVGRISHGAGNEVFSQMDGLPSLQIADSDSLFAFYNLHCLRRDSH 407
QY 209 KIDNYLKLKLCRIITHNNC 227
DB 408 KIDNYLKLKLCRIITHNNC 426

RESULT 12
US-08-737-248-5
; Sequence 5, Application US/08737248
; Patent No. 6114305
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GenCore version 4.5
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OM protein - protein search, using sw model

Run on: April 25, 2002, 11:03:55 ; Search time 23.29 Seconds
(without alignments)
721.968 Million cell updates/sec

Title: US-09-815-306-1

Perfect score: 1185
Sequence: 1 MNKISSPMWKSLLLLVSNL.....HKIDNYLKLLCRRIHNNNC 227

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 522463 seqs, 74073290 residues

Total number of hits satisfying chosen parameters: 522463

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database :

1: /SID58/gcgdata/geneseq/geneseq/AA1980.DAT:*
2: /SID58/gcgdata/geneseq/geneseq/AA1981.DAT:*
3: /SID58/gcgdata/geneseq/geneseq/AA1982.DAT:*
4: /SID58/gcgdata/geneseq/geneseq/AA1983.DAT:*
5: /SID58/gcgdata/geneseq/geneseq/AA1984.DAT:*
6: /SID58/gcgdata/geneseq/geneseq/AA1985.DAT:*
7: /SID58/gcgdata/geneseq/geneseq/AA1986.DAT:*
8: /SID58/gcgdata/geneseq/geneseq/AA1987.DAT:*
9: /SID58/gcgdata/geneseq/geneseq/AA1988.DAT:*
10: /SID58/gcgdata/geneseq/geneseq/AA1989.DAT:*
11: /SID58/gcgdata/geneseq/geneseq/AA1990.DAT:*
12: /SID58/gcgdata/geneseq/geneseq/AA1991.DAT:*
13: /SID58/gcgdata/geneseq/geneseq/AA1992.DAT:*
14: /SID58/gcgdata/geneseq/geneseq/AA1993.DAT:*
15: /SID58/gcgdata/geneseq/geneseq/AA1994.DAT:*
16: /SID58/gcgdata/geneseq/geneseq/AA1995.DAT:*
17: /SID58/gcgdata/geneseq/geneseq/AA1996.DAT:*
18: /SID58/gcgdata/geneseq/geneseq/AA1997.DAT:*
19: /SID58/gcgdata/geneseq/geneseq/AA1998.DAT:*
20: /SID58/gcgdata/geneseq/geneseq/AA1999.DAT:*
21: /SID58/gcgdata/geneseq/geneseq/AA2000.DAT:*
22: /SID58/gcgdata/geneseq/geneseq/AA2001.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	1185	100.0	227	11	AA05231
2	1181	99.7	228	18	AAW23620
3	1181	99.7	228	18	AAW23626
4	1176	99.2	227	9	AA082079
5	1043	88.0	199	20	AAV31764
6	1043	88.0	200	20	AAW92258
7	1043	88.0	351	16	AA078691
8	1038	87.6	199	21	AAV78428
9	1036	87.4	359	11	AA05805
10	1022	86.2	199	18	AAW23629
11	783	66.1	229	11	AA05699

12	754	63.6	199	16	AA087090
13	754	63.6	426	16	AA087091
14	729.5	61.6	226	12	AA014599
15	729	61.5	225	9	AA082078
16	705	59.5	140	20	AAW92260
17	705	59.5	143	20	AAW92261
18	703.5	59.4	226	12	AA013757
19	689.5	58.2	184	8	AA070504
20	657	55.4	198	13	AA022494
21	642	54.2	193	18	AAW23619
22	641	54.1	125	19	AAW0299
23	641	54.1	252	19	AAW0300
24	630	53.2	125	20	AA06194
25	630	53.2	253	20	AAW06195
26	626	52.8	124	20	AAW92259
27	442	37.3	216	10	AAW94626
28	433	36.5	198	11	AAW06643
29	410.5	34.6	243	20	AAV08018
30	356	30.0	224	7	AA060511
31	328.5	27.7	204	16	AA059481
32	314	26.5	211	22	AA081246
33	294	24.8	253	20	AAV08016
34	276.5	23.3	200	11	AAW06914
35	276	23.3	211	13	AA027501
36	272	23.0	212	11	AAW06893
37	267	22.5	212	11	AA08121
38	263	22.2	236	22	AA061576
39	245	20.7	223	22	AA061577
40	222.5	18.8	216	5	AA040214
41	219.5	18.5	216	5	AA040215
42	217.5	18.4	232	12	AA013583
43	212.5	17.9	217	9	AA080974
44	206	17.4	192	21	AA03153
45	205.5	17.3	217	8	AA071058

ALIGNMENTS

RESULT 1

ID AAR05231 standard; protein: 227 AA.

AC AAR05231;

DT 03-AUG-1990 (first entry)

DE AA sequence of human prolactin (HP) as encoded by recombinant DNA.

KW Human prolactin (HP); plasmid pRP100; plasmid pDR720;

KW Plasmid pRP100.

OS Homo sapiens.

PN JP02000445-A.

PD 05-JAN-1990.

PF 25-DEC-1987; 87JP-0331244.

PR 25-DEC-1987; 87JP-0331244, JP-315317.

PA (SHIK-) SHIKISHIMA BOSEKI K.

PP WPI: 1990-047987/07.

DR N-PSDB; AA093293.

PT Human prolactin producing recombinant DNA
in which promoter, Shine-Dalgarno sequence and translation
initiation codon are integrated

PS Disclosure: Fig 1; 15pp: Japanese.

Turkey prolactin.
Turkey prolactin/G
Rat prolactin. Ra
Recombinant rat pr
Human anti-angio
Human anti-angio
Prolactin. Mus mu
Cattle recombinant
Rat prolactin. Ra
Human prolactin an
Human concanavalin
Anti-angiotensin pr
Anti-angiotensin pr
Human anti-angio
Sequence of bovine
Mammalian growth ho
Mouse PA-I protein
Mammalian prolif
Prolactin peptide
Human APP protein
Mouse PA-I protein
Tilapia prolactin
Prolactin from pit
Tilapia prolactin
Modified tilapia P
Murine prolactin-I
Murine prolactin-I
Sequence encoded b
Sequence of turkey
Growth hormone-Ik
Sequence of human
Chicken growth hor
Sequence of human

CC Also new are bacteria (E. coli) expressing it which contain its encoding
CC DNA, and the prodn. of it by their culture. Large ams. of it can be
CC produced recombinantly.

XX Sequence 227 AA:

Query Match 100.0%; Score 1185; DB 11; Length 227;
Best Local Similarity 100.0%; Pred. No. 6.7e-106;
Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNIKSPWKGSLLLLVSNLLCQSVAPLPICPGGAARCOVTLRDLFRAVAVLSHYIHL 60
DB 1 mnikspwkgsl1lllvsnlllcqsvaplpicpggaarcqvltlrdlfravavlshyihl 60
OY 61 SSEMFSEFDKRYTHGRGFTTKAINSCHTSLATPEDKDAQOQMNOKDELSLVSILRSWN 120
DB 61 semfsefdkrythgrgfttkainschslatpedkdaqgmqdkfslsvslrsw 120
OY 121 EPLVHLVTEVRGMQAPPAILSKAVEIEBQTRRLLEGMEILYSQVHPETKENEIYPWMSG 180
DB 121 eplvhlvtevrqmgapeailskaveieeqtkrllegmellvsqvhpeckenelypws 180
OY 181 LPSIQMADEESRLSAVYNLLHCLRDSSHKIDVYKLLKCRITHHNNC 227
DB 181 lpsiqmadeesrlsayynllhclrdsbhkldvylklkcrilhhnnc 227

RESULT 2

AAW23620
ID AAW23620 standard; Protein: 228 AA.

XX AAW23620;
DT 11-FEB-1998 (first entry)

DE Prolactin antagonist (substituted human prolactin).

KW Prolactin antagonist; phosphorylation; hyperprolactinaemia;
KW prolactinoma; prostate cancer; tumour; T-lymphoma; infertility;
XX lactation; miscarriage; ovulation; antibody; therapy; human.

OS Homo sapiens.
XX Synthetic.

XX Key Location/Qualifiers

FT MISC-difference 43 /note= "encoded by ASS"
FT MISC-difference 63 /note= "encoded by TGA"
FT MISC-difference 74 /note= "encoded by ASS"
FT MISC-difference 94 /note= "encoded by ASS"
FT MISC-difference 152 /note= "encoded by ASS"
FT MISC-difference 170 /note= "encoded by ASS"
FT MISC-difference 208 /note= "encoded by ASS"

FT MISC-difference 208 /label= Asp, Glu, Asn, Tyr, Gln, Ala, Trp, His

PN W09727865-A1.

XX 07-AUG-1997.

XX 30-JAN-1997; 97WO-US01435.

XX 31-JAN-1996; 96US-0594809.

XX (REGC) UNIV CALIFORNIA.

XX Walker AM;

XX

DR WPI: 1997-402308/37.
DR N-PsDB: AAT74333.

PT Substituted prolactin peptide(s) and proteins having an amino acid
PT substitution for serine in the C-terminal - useful as prolactin
PT antagonists, e.g. for treating prolactin dependent cancers

XX Example 13; Fig 18; 158pp; English.

XX This protein comprises human prolactin, substituted at residue 208
CC (Ser-179 in the native sequence). It can be expressed in bacterial
CC or eukaryotic host cells using a claimed cDNA sequence (see
CC AAT74333). Claimed prolactin antagonists (see AAW23608-18) comprise
CC prolactin substitution mutant proteins and C-terminal peptides in
CC which the serine residue at position 179 (human) or 177 (rat) is
CC substituted by another amino acid. They can be used for the
CC treatment of prolactin dependent cancers and can inhibit T-lymphoma
CC cell proliferation. They are also useful for treatment of
CC prolactinoma, infertility related to abnormal prolactin regulation,
CC some forms of prostatic cancer, miscarriage and ovulation
CC irregularities, as well as in assays to measure levels of non-
CC phosphorylated and phosphorylated prolactin as an indicator of
CC reproductive pathologies and presence or status of a prolactin-
CC dependent tumour, and to raise polyclonal and monoclonal antibodies.

XX Sequence 228 AA:

Query Match 99.7%; Score 1181; DB 18; Length 228;
Best Local Similarity 99.6%; Pred. No. 1.6e-105;
Matches 226; Conservative 0; Mismatches 1; Indels 0; Gaps 0;

OY 1 MNIKSPWKGSLLLLVSNLLCQSVAPLPICPGGAARCOVTLRDLFRAVAVLSHYIHL 60
DB 2 mnikspwkgsl1lllvsnlllcqsvaplpicpggaarcqvltlrdlfravavlshyihl 61

OY 61 SSEMFSEFDKRYTHGRGFTTKAINSCHTSLATPEDKDAQOQMNOKDELSLVSILRSWN 120
DB 62 semfsefdkrythgrgfttkainschslatpedkdaqgmqdkfslsvslrsw 121

OY 121 EPLVHLVTEVRGMQAPPAILSKAVEIEBQTRRLLEGMEILYSQVHPETKENEIYPWMSG 180
DB 122 eplvhlvtevrqmgapeailskaveieeqtkrllegmellvsqvhpeckenelypws 181

OY 181 LPSIQMADEESRLSAVYNLLHCLRDSSHKIDVYKLLKCRITHHNNC 227
DB 182 lpsiqmadeesrlsayynllhclrdsbhkldvylklkcrilhhnnc 228

RESULT 3

AAW23626
ID AAW23626 standard; Protein: 228 AA.

XX AAW23626;

DT 11-FEB-1998 (first entry)

DE Prolactin antagonist (substituted human prolactin).

KW Prolactin antagonist; phosphorylation; hyperprolactinaemia;
KW prolactinoma; prostate cancer; tumour; T-lymphoma; infertility;
XX lactation; miscarriage; ovulation; antibody; therapy; human.

OS Homo sapiens.
XX Synthetic.

XX Key Location/Qualifiers

FT MISC-difference 208 /note= "variable site"

PN W09727865-A1.

XX 07-AUG-1997.

XX

XX 30-JAN-1997; 97WO-US01435.
 PF 31-JAN-1996; 96US-0594809.
 PR
 XX (REGC) UNIV CALIFORNIA.
 PA
 PI Walker AM;
 DR WPI: 1997-402308/37.
 XX
 PT Substituted prolactin peptide(s) and proteins having an amino acid
 PT substitution for serine in the C-terminal - useful as prolactin
 PT antagonists, e.g. for treating prolactin dependent cancers
 XX
 PS Example 9; Page 102; 158pp; English.
 XX
 CC This protein comprises human prolactin, substituted at residue 208
 CC (Ser-179 in the native sequence). It has prolactin antagonist
 CC activity, antagonizing the stimulation of T lymphoma cell growth in
 CC the presence of non-phosphorylated prolactin. Claimed prolactin
 CC antagonists (see AAW23607-18) comprise prolactin substitution mutant
 CC proteins and C-terminal peptides. The Antagonists can be used for
 CC the treatment of prolactin dependent cancers and can inhibit
 CC T-lymphoma cell proliferation. They are also useful for treatment
 CC of prolactinoma, infertility related to abnormal prolactin
 CC regulation, some forms of prostatic cancer, miscarriage and
 CC ovulation irregularities, as well as in assays to measure levels of
 CC non-phosphorylated and phosphorylated prolactin as an indicator of
 CC reproductive pathologies and presence or status of a prolactin
 CC dependent tumour, and to raise polyclonal and monoclonal antibodies.
 XX
 SQ Sequence 228 AA;
 Query Match 99.7%; Score 1181; DB 18; Length 228;
 Best Local Similarity 99.6%; Pred. No. 1.6e-105;
 Matches 226; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 1 MNKGSPWKSLLLLLVSNLLCOSVAPLPICPGGAARCOVTLRDLPDRAVLSHYIHLN 60
 DB 2 mnlkgspwkslllllvsnlllqsvaplpicpggaarqvtrldlfdravvlsyihnl 61
 QY 61 SSMFSEFDKRYTHRGFTFKRATNSCHTSSLATPEDEQAQOMNQKFLSLIYSLRSMN 120
 DB 62 ssemfsefdkrythrgftfkra tnschtsslatpe deqagqm qkflslivslrsmn 121
 QY 121 EPIYHLVTEVRGMOEAPALISKAVEIEEOTKRLLEGMEILVSOVHETKENETYPWMSG 180
 DB 122 epiylhlvtevr gmoepaaliskaveleeqtkrllegmeilvsgvhpctkenelypwsq 181
 QY 181 LPSIQMADEESRLSAVYNLLHCLRRDSHKIDNYLKLKCRTHNNNC 227
 DB 182 lpslqma deesrlsayynllhcltrdshk idnylklkcrthnnnc 228
 RESULT 4
 ID AAW2079 standard; protein; 227 AA.
 AC AAW2079;
 DT 18-OCT-1990 (first entry)
 XX
 DE Human preprolactin gene.
 KW Prolactin; milk; contraceptive; dairy cows; lactation.
 XX Homo sapiens.
 OS
 XX Key Location/Qualifiers
 FT 1..227
 FT Protein /label=preprolactin

FT Protein 29..227
 FT /label=prolactin
 XX
 PN US4725549-A.
 XX
 PD 16-FEB-1988.
 XX
 PF 23-MAR-1984; 84US-0592714.
 XX
 PR 22-SEP-1980; 80US-0189160.
 PR 23-MAR-1984; 84US-0592714.
 XX
 PA (REGC) UNIVERSITY OF CALIFORNIA.
 PI Cooke NE, Baxter JD;
 DR WPI: 1988-070922/10.
 DR N-PSDB; AAN80115.
 XX
 PT DNA coding for prolactin - obtd. by prepn. of reverse transcript
 PT of mRNA coding for prolactin and inserting into a transfer vector.
 XX
 PS Disclosure; ; P; English.
 XX
 CC The cDNA encoding the prolactin can be inserted into expression vectors
 CC for the prodn. of prolactin which can be admin. to dairy cows to
 CC increase milk yield. The protein can also be used as a female
 CC contraceptive and to ensure adequate milk prodn. for breast feeding
 CC mothers. See also AAW2078.
 XX
 SQ Sequence 227 AA;
 Query Match 99.2%; Score 1176; DB 9; Length 227;
 Best Local Similarity 99.1%; Pred. No. 4.9e-105;
 Matches 225; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
 QY 1 MNKGSPWKSLLLLLVSNLLCOSVAPLPICPGGAARCOVTLRDLPDRAVLSHYIHLN 60
 DB 1 mnlkgspwkslllllvsnlllqsvaplpicpggaarqvtrldlfdravvlsyihnl 60
 QY 61 SSMFSEFDKRYTHRGFTFKRATNSCHTSSLATPEDEQAQOMNQKFLSLIYSLRSMN 120
 DB 61 ssemfsefdkrythrgftfkra tnschtsslatpe deqagqm qkflslivslrsmn 120
 QY 121 EPIYHLVTEVRGMOEAPALISKAVEIEEOTKRLLEGMEILVSOVHETKENETYPWMSG 180
 DB 121 epiylhlvtevr gmoepaaliskaveleeqtkrllegmeilvsgvhpctkenelypwsq 180
 QY 181 LPSIQMADEESRLSAVYNLLHCLRRDSHKIDNYLKLKCRTHNNNC 227
 DB 181 lpslqma deesrlsayynllhcltrdshk idnylklkcrthnnnc 227
 RESULT 5
 ID AAY31764 standard; Protein; 199 AA.
 AC AAY31764;
 DT 06-DEC-1999 (first entry)
 XX
 DE Human prolactin.
 XX
 KW Prolactin; human; variant; protein engineering.
 XX Homo sapiens.
 OS
 XX Key Location/Qualifiers
 FT Misc-difference 59
 FT /note="optionally substituted by phe in human
 FT FT prolactin variant of Claim 8"

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FT /note- "optionally substituted by Ser in human
FT proactin variant of Claim 8"
FT Misc-difference 61 /note- "optionally substituted by Glu in human
FT proactin variant of Claim 8"
FT Misc-difference 63 /note- "optionally substituted by Ile in human
FT proactin variant of Claim 8"
FT Misc-difference 64 /note- "optionally substituted by Pro in human
FT proactin variant of Claim 8"
FT Misc-difference 67 /note- "optionally substituted by Ser in human
FT proactin variant of Claim 8"
FT Misc-difference 68 /note- "optionally substituted by Asn in human
FT proactin variant of Claim 8"
FT Misc-difference 69 /note- "optionally substituted by Arg in human
FT proactin variant of Claim 8"
FT Misc-difference 71 /note- "optionally substituted by Glu in human
FT proactin variant of Claim 8"
FT Misc-difference 72 /note- "optionally substituted by Thr in human
FT proactin variant of Claim 8"
FT Misc-difference 75 /note- "optionally substituted by Lys in human
FT proactin variant of Claim 8"
FT Misc-difference 76 /note- "optionally substituted by Ser in human
FT proactin variant of Claim 8"
FT Misc-difference 77 /note- "optionally substituted by Asn in human
FT proactin variant of Claim 8"
FT Misc-difference 78 /note- "optionally substituted by Lys in human
FT proactin variant of Claim 8"
FT Misc-difference 79 /note- "optionally substituted by Glu in human
FT proactin variant of Claim 8"
FT Misc-difference 180 /note- "optionally substituted by Asp in human
FT proactin variant of Claim 8"
FT Misc-difference 184 /note- "optionally substituted by Thr in human
FT proactin variant of Claim 8"
FT Misc-difference 185 /note- "optionally substituted by Phe in human
FT proactin variant of Claim 8"
FT Misc-difference 187 /note- "optionally substituted by Arg in human
FT proactin variant of Claim 8"
FT US9595346-A.
FT 21-SEP-1999.
FT 07-JUN-1995: 95US-0476999.
FT 02-FEB-1994: 94US-0190723.
FT 26-OCT-1989: 89US-0428066.
FT 27-APR-1992: 92US-0875204.
FT 13-OCT-1992: 92US-0960227.
FT 28-OCT-1988: 82US-0264611.
FT (GETH ) GENENTECH INC.
FT Cunningham BC, Wells JA:
FT WPI, 1999-560495/47.
FT Isolated nucleic acids encoding variants of human proactin and

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PT placental lactogen useful for identifying active domains within those
PT proteins -
PS Claim 7; Fig 2; 86pp: English.
XX
XX This is the amino acid sequence of human proactin. The invention
CC provides a method for the systematic analysis of the structure and
CC function of polypeptides by identifying active domains which
CC influence the activity of the polypeptide with a target substance,
CC and a method for identifying the active amino acid residues within
CC the active domain of a polypeptide. It also provides polypeptide
CC variants comprising segment-substituted and residue-substituted
CC growth hormones, proactin and placental lactogens. Claimed
CC variants of human proactin have 1-19 amino acid substitutions
CC when compared to the wild-type sequence, selected from 859F, 160S,
CC S61E, L63I, A64F, E67S, D68N, K69R, Q71E, A72T, M75K, N76S, Q77N,
CC K78L, D79E, H180D, N184T, Y185F and K185R. These mutations
CC inactivate the active domains and binding sites of the protein.
CC Identifying receptor binding sites in hormones permits the rational
CC design of receptor specific variants. Nucleic acids encoding the
CC variants, expression vectors and host cells are also claimed.
CC
SQ Sequence 199 AA:
Query Match 88.0%; Score 1043; DB 20; Length 199;
Best Local Similarity 100.0%; Pred. No. 2.5e-92;
Matches 199; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 29 LPIPCGAARCVTLRDLDFRAVYLSHYIHNLSSEMFSEFDRYTHGCFITKAINSCHT 88
DB 1 IPIPGGAARCVTLRDLDFRAVYLSHYIHNLSSEMFSEFDRYTHGCFITKAINSCHT 60
QY 89 SSLATPEDEKQAOQNMKNDFSLVSTRSWNEPLHYLYPVRKMOEAPKILSKAEIE 148
DB 61 SLATPEDEKQAOQNMKNDFSLVSTRSWNEPLHYLYPVRKMOEAPKILSKAEIE 120
QY 149 EOTRRLLEGMEILVSOVHPETRENEIYPVWSGLPSLQMADEESLSAYYNLHCLRDSH 208
DB 121 EQTRRLLEGMEILVSOVHPETRENEIYPVWSGLPSLQMADEESLSAYYNLHCLRDSH 180
QY 209 KIDNYLKLKLCRIHNNNC 227
DB 181 KIDNYLKLKLCRIHNNNC 199
RESULT 6
ID AAM92258
ID AAM92258 standard; Protein; 200 AA.
AC XX
AC AAM92258;
DT 08-JUN-1999 (first entry)
DE Human anti-angiogenic peptide hPRL Met-1Cys199.
XX
XX Human: anti-angiogenic; placental lactogen; hPL; angiogenesis;
KW growth hormone; hGH; hGH-V; capillary endothelial cell proliferation;
KW placental vascularisation; pregnancy; treatment; angiogenic disease;
KW tumour; inhibitor; malignant; angiofibroma; arteriovenous malformation;
KW arthritis; atherosclerotic plaques; corneal graft neovascularisation;
KW wound healing; proliferative retinopathy; macular degeneration; trachoma;
KW granuloma; glaucoma; ocular; uveitis; fracture; Oster-Weber syndrome;
KW psoriasis; fibroplasia; scleroderma; Kaposi's sarcoma; vascular adhesion;
KW ulcer; leukaemia; reproductive disorder; contraceptive agent;
KW gene therapy; pre-eclampsia; intrauterine growth retardation;
KW placental dysfunction.
XX
XX Homo sapiens.
OS
XX
XX MO9851323-A1.
XX
XX 19-NOV-1998.

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PF -12-MAY-1998;          98WO-US09691.
XX
XX 13-MAY-1997;          97US-0046394.
PR
PA (REGC ) UNIV CALIFORNIA.
PI Martial JA, Struman I, Taylor R, Weiner RI;
DR WPI: 1999-045192/04.
XX N-PSDB; AAX01694.
PT New anti-angiogenic peptides - comprise N-terminal fragments of
PT human placental lactogen, human growth hormone, growth hormone
PT variant or human prolactin
XX
XX Example 3: Page 43-44; 87pp; English.
XX
XX This invention describes novel human anti-angiogenic peptides derived
CC from 10 to 150 consecutive amino acids selected from the N-terminal end
CC of human placental lactogen (hPL), human growth hormone (hGH), growth
CC hormone variant (hGH-V), or human prolactin. Such peptides (i) inhibit
CC capillary endothelial cell proliferation and organisation (ii) inhibit
CC angiogenesis in chick chorioallantoic membrane and (iii) binds to at
CC least one specific receptor which does not bind an intact full length
CC hGH, hPL, prolactin or hGH-V. The invention also describes a method for
CC diagnosing a probable abnormality of placental vasacularisation during
CC pregnancy. The peptides can be used for treating an angiogenic disease in
CC a subject, for inhibiting tumour formation or growth in a patient or for
CC modulating vascularisation of a patient's placenta. In particular, the
CC peptides can be used for preventing or treating e.g. malignant tumours,
CC angiofibroma, arteriovenous malformation, arthritic such as rheumatoid
CC arthritis, atherosclerotic plaques, corneal graft neovascularisation,
CC delayed wound healing, proliferative retinopathy such as diabetic
CC retinopathy, macular degeneration, granulataions such as those occurring
CC in haemophilic joints, inappropriate vascularisation in wound healing
CC such as hypertrophic scars or keloid scars, neovascular glaucoma, ocular
CC tumour, uveitis, non-union fractures, Osler-Weber syndrome, psoriasis,
CC pyogenic glaucoma, retrolental fibroplasia, scleroderma, solid tumours,
CC Kaposi's sarcoma, trachoma, vascular adhesions, chronic varicose ulcers,
CC leukaemia, and reproductive disorders such as follicular and luteal cysts
CC and choriorcarcinoma. They can also be used as contraceptive agents. DNA
CC encoding the peptides can be used in gene therapy. The measurement of
CC abnormal levels of N-terminal fragments of hGH, hGH-V, prolactin or hPL
CC can be used in assays for impairment of vascular development associated
CC with pre-eclampsia, intrauterine growth retardation, and placental
CC dysfunction.
XX
XX Sequence      200 AA;
SQ
Query Match              88.0%; Score 1043; DB 20; Length 200;
Best Local Similarity 100.0%; Pred. No. 2,5e-92;
Matches 199; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
OY LPICGGAAFCQVTLRLDFRAVLVSHYIHLNLSSEMFSEFDRKRYTHGRGFITKAINSCHT 88
Db 2 LPICGGAGARCVTLRDLFRVAVLshyihlnlssemfsefdkrythgrgffikainscht 61
OY 89 SSLAIPDEKEQAQQNQKDFSLYSILRSNWEPYLHLYTEVRGMQEAPALSKAVEIE 148
Db 62 SLAIPDEKEGAQQNMQKDFSLISVILRSWEPYLHYTVETVRGMQEAPALSKAVEIE 121
OY 149 EOTRKLLGEMELIVSOVHPETKENETPRPWSGLPSIQMADEESRIASAYNNLHCJRRDSH 208
Db 122 ETKTKLLIGEMELIVSQVHPETEKENETYPWSGLPSIQMADEESTRIASAYNNLHCJRRDSh 181
OY 209 KIDNYLKLLKCRIIHNNNC 227
Db 182 KIDNYLKLLKCRILHHNNC 200

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ID	AAR78691
XX	AAR78691 standard; Protein: 351 AA.
XX	
AC	AAR78691;
XX	
DT	16-JAN-1996 (first entry)
XX	
DE	Proactin.
XX	
KW	Prolactin; cDNA; vaccine; augment; bacterins; attenuated vaccine; live vaccine; virus; immune response.
XX	
OS	Homo sapiens.
XX	
PN	WO9521625-A1.
XX	
PD	17-AUG-1995.
XX	
PF	14-FEB-1995; 95WO-US01866.
XX	
PR	14-FEB-1994; 94US-0196350.
XX	
PA	(GENZ) GENZYME CORP.
XX	
EI	Kaplan J, Mosciak R, Richards S;
DR	WPI; 1995-292943/38.
XX	
PT	Use of prolactin or prolactin cDNA - for enhancing the immune response of an animal to an infectious disease vaccine
XX	
PS	Claim 4; Page 11-13; 22pp: English.
CC	
CC	A composition comprising prolactin or prolactin cDNA can be used for enhancing the immune response of an animal to an infectious disease vaccine. The composition can be used to enhance the effectiveness of vaccines which are considered "weak" e.g. bacterins and attenuated live or killed virus products.
CC	
Sequence	351 AA;
SQ	
<hr/>	
Query Match	88.0%; Score 1043; DB 16; Length 351;
Best Local Similarity	100.0%; Pred. No. 5.2e-92;
Matches 199; Conservative	0; Mismatches 0; Indels 0; Gaps 0;
Oy	29 LPICGGAARCOVTRDLFEADVAVLSHYTIHNLSEMFSPDKRYTHGRGFTTKAINSCHT 88
Db	153 LPICGGGAARCVCVLRTDLDFAVVSlyIHNLSEMFSEIDKRYLNGRGfllkAlnSchc 212
Oy	89 SSLATPEEKEDQAQQNQKDFLSLYISLRSWNEPLVHLVTEYGVMOEAPeALSKAVEIE 148
Db	213 sSLatPeekEqeqqmqgdfIslIsylSRwNePlYhlvtErvgmQeaPealSkaveIe 272
Oy	149 EOTKRLEGMELIVSQVHPETKEKEIYPVWSGLPSIQMADEBSRLSAYYNLIHCILRDSH 208
Db	273 eqtkrllegmelivsqvhpetkenelypwsglpsiqmadeesrlsayynlhclrtldsh 332
Oy	209 KIDNYLKLLKCRITHHNNC 227
Db	333 kIdnYlklKcrIlhnnc 351
<hr/>	
RESULT	8
AA78428	
ID	AA78428 standard; Protein: 199 AA.
XX	
AC	AA78428;
XX	
DT	09-MAY-2000 (first entry)
XX	
DE	Human prolactin amino acid sequence.
XX	

KW Human growth hormone; hGH; prolactin; placental lactogen;
 KW modification; mutagenesis.
 OS Homo sapiens.
 XX US6013478-A.
 PN 11-JAN-2000.
 PD 24-JUN-1998; 98US-0104036.
 PF 26-OCT-1989; 89US-0428066.
 PR 27-APR-1992; 92US-0875204.
 PR 13-OCT-1992; 92US-0960227.
 PR 02-FEB-1994; 94US-0190723.
 PR 06-JUN-1995; 95US-0483039.
 PR 30-JUN-1997; 97US-0903398.
 PR 28-OCT-1988; 88US-0264611.
 XX (GETH) GENENTECH INC.
 PA Wells JA, Cunningham BC;
 PI WPI, 2000-159873/14.
 DR Recombinant production of variant polypeptides, e.g. growth hormone
 XX variants with altered receptor specificity, using cells transformed
 PT with DNA selected by scanning mutagenesis in at least one peptide
 PT domain
 XX
 PS Example 2; Fig 2; 83pp; English.
 XX
 CC The present invention describes the production of a polypeptide variant
 CC (1) comprising segment substituted and residue substituted growth
 CC hormone, prolactin or placental lactogens. The method is particularly
 CC used to produce variants of growth hormone (GH), prolactin or placental
 CC lactogen, but may also be applied to receptors, interferons, and
 CC colony-stimulating factors. A particular application is the production
 CC of human GH variants with altered (decreased or increased) binding
 CC interaction with the somatogenic receptor, i.e. compounds useful as
 CC human GH (ant)agonists and which may have higher potency for stimulating
 CC other human GH receptors, and as standards or tracers in immunoassays
 CC for human GH. This method of DNA selection identifies the biologically
 CC active residues in active domains, including those critical for
 CC interaction with different targets. The present sequence represents a
 CC human prolactin amino acid sequence, which is used in the
 CC exemplification of the present invention.
 CC
 XX
 XX
 SQ Sequence 199, AA;
 Query Match 87.6%; Score 1038; DB 21; Length 199;
 Best Local Similarity 99.5%; Pred. No. 7,4e-92;
 Matches 199; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 29 LPTPGGAARQCVTLRDLFRAVYLSHYINLSSEMFSEDKRYTHRGFTTKAINSCHT 88
 DB 1 lptpggaarcqvltlrdlfravylshylnlssmfsejdkrythrgfttkainscht 60
 QY 89 SSLATPEDKQAQOMNKDFLSLIVSLRSMNEPLVHLVEVRGMQAPPAIISKAVEIE 148
 DB 61 sslatpedkdaqomnkdfslslvslrsmneplvhlvevrgmqapailiskaveie 120
 QY 149 EQTKRLLEGMEELIVSOVHPETKENEIYPVWSGLPSLOMADEESRLSAVYNLLHCLRRDSH 208
 DB 121 eqtkrllegmelivsovhpetkenelypwsglpslqmadeesrlsavylnllhclrrdsh 180
 QY 209 KIDNYLKLKLCRIIHNNC 227
 DB 181 kidnylklklkrcrllhnnc 199
 RESULT 9

AA05805
 ID AAR05805 standard; protein; 359 AA.
 XX
 AC AAR05805;
 XX
 DT 13-NOV-1990 (first entry)
 XX
 DE DHFR-prolactin fusion gene encoded by plasmid pPRLH4.
 XX
 KW Plasmid pPRLH4; trimethoprim; ampicillin; DHFR; prolactin;
 KW dithydrofolate reductase; ds.
 XX
 OS Synthetic.
 XX
 PN JP02142479-A.
 PD 31-MAY-1990.
 PF 24-NOV-1988; 88JP-0296913.
 PR 24-NOV-1988; 88JP-0296913.
 PR 24-NOV-1988; 88JP-0296913.
 XX (AGEN) AGENCY OF IND SCI TECH.
 PA WPI: 1990-213062/28.
 DR N-PSDB; AAQ05168.
 XX
 PT New recombinant plasmid pPRLH4 - can be replicated in escherichia
 PT coli and can give trimethoprim and ampicillin resistance to host.
 XX
 PS Disclosure; ; P; Japanese.
 XX
 CC Plasmid may be used to transform E.coli to express DHFR-prolactin
 CC fusion protein.
 CC
 XX
 SQ Sequence 359 AA;
 Query Match 87.4%; Score 1036; DB 11; Length 359;
 Best Local Similarity 99.5%; Pred. No. 2.5e-91;
 Matches 199; Conservative 0; Mismatches 1; Indels 0; Gaps 0;
 QY 29 LPTPGGAARQCVTLRDLFRAVYLSHYINLSSEMFSEDKRYTHRGFTTKAINSCHT 88
 DB 161 lptpggaarcqvltlrdlfravylshylnlssmfsejdkrythrgfttkainscht 220
 QY 89 SSLATPEDKQAQOMNKDFLSLIVSLRSMNEPLVHLVEVRGMQAPPAIISKAVEIE 148
 DB 221 sslatpedkdaqomnkdfslslvslrsmneplvhlvevrgmqapailiskaveie 280
 QY 149 EQTKRLLEGMEELIVSOVHPETKENEIYPVWSGLPSLOMADEESRLSAVYNLLHCLRRDSH 208
 DB 281 eqtkrllegmelivsovhpetkenelypwsglpslqmadeesrlsavylnllhclrrdsh 340
 QY 209 KIDNYLKLKLCRIIHNNC 227
 DB 341 kidnylklklkrcrllhnnc 359
 RESULT 10
 AAM23629
 ID AAM23629 standard; Protein; 199 AA.
 XX
 AC AAM23629;
 XX
 DT 11-FEB-1998 (first entry)
 XX
 DE Human proactin (Ser-179 substituted).
 XX
 KW Prolactin antagonist; phosphorylation; hyperprolactinaemia;
 KW prolactinoma; prostate cancer; tumour; T-lymphoma; infertility;
 KW lactation; miscarriage; ovulation; antibody; therapy; human.
 XX

OS	Homo sapiens.
OS	Synthetic.
XX	
FH	Key
FT	Misc-difference 179
FT	/note= "variable site"
XX	
PN	W09J27865-A1.
XX	
PD	07- AUG -1997 .
XX	
PE	30- JAN -1997; 97NO-USO1435.
XX	
PR	31- JAN -1996; 96US-0594809.
XX	
PA	(REGC) UNIV CALIFORNIA.
XX	
PI	Walker AM;
XX	
DR	WPI: 1997-402308/37 .
XX	
PT	Substituted prolactin peptide(s) and proteins having an amino acid
PT	substitution for serine in the C-terminal - useful as prolactin
PT	antagonists, e.g. for treating prolactin dependent cancers
XX	
PS	Disclosure: Page 106-107; 158pp; English.
XX	
CC	This protein comprises human prolactin, substituted at residue 179
CC	(Ser in the native sequence). It has prolactin antagonist
CC	activity, antagonising the stimulation of T.lymphoma cell growth in
CC	the presence of non-phosphorylated prolactin. Claimed prolactin
CC	antagonists (see AWW23607-18) comprise prolactin substitution mutant
CC	proteins and C-terminal peptides. The Antagonists can be used for
CC	the treatment of prolactin dependent cancers and can inhibit
CC	T-lymphoma cell proliferation. They are also useful for treatment
CC	of prolactinoma, infertility related to abnormal prolactin
CC	regulation, some forms of prostatic cancer, miscarriage and
CC	ovulation irregularities, as well as in assays to measure levels of
CC	non-phosphorylated and phosphorylated prolactin as an indicator of
CC	reproductive pathologies and presence or status of a prolactin-
CC	dependent tumour, and to raise polyclonal and monoclonal antibodies.
XX	
XQ	Sequence 199 AA:
XX	
Query Match	86.2% Score 1022: DB 18; Length 199;
Best Local Similarity	98.5%; Pred. No. 2.6e-90;
Matches 196; Conservative	0; Mismatches 3; Indels 0; Gaps
OY	29 LPICGGAARQVTLRLDFRAVVLSHYIHLSEMESEFDPRTYHGFTKAINSCHT 88
Dd	1 LPICGGARQGVLTLDLFDRAVVALSHYIHLSSEMSEFDPKRYTMGRGITKAINSCHT 60
OY	89 SSLATPEDKEQAQQMNOKDPLSLIVSILRSNNEPLVHLVTEVRGMQAPALISKAVEIE 148
Dd	61 SLATPEDEKEGAGNQNGDFISLIIVSRNNEPLVHLVTEVRGMQAPALISKAVEIE 120
OY	149 EQTKLLLEGAMELYSOVHPERKENETIPYWSGLPSLOMADEESLSAYNLHLRDSH 208
Dd	121 eqtkrllegamelivsqvhpckeneilypvwsqipslqmadesrlsaynlhlclrrdxh 180
OY	209 KIDNYLKLLKCRITHHNNNC 227
Dd	181 kidnylkllkcrilhnnnc 199
RESULT 11	
AAR05699	
ID	AAR05699 standard; protein: 229 AA.
AC	
XX	AAR05699;
XX	
DT	16-AUG-1990 (first entry)

Query Match	Best Local Similarity	Matches	153; Conservative	32; Mismatches	42; Indels	2; Gaps	2.
DE	Preprolactin from plasmid pcPRL1.						
KW	Prolactin; preprolactin; pituitary; fowl; poultry; ds.						
FM	Key	Location/Qualifiers					
FT	Peptide	11..229					
XX		/Label=Prolactin gene.					
XX	JP02053495-A.						
PD	22-FEB-1990.						
XX	18-AUG-1988;	88JP-0203913.					
XX	18-AUG-1988;	88JP-0203913.					
XX	(NICE-) NIPPON GENE KK.						
XX	WPI; 1990-103124/14.						
DR	N-PSDB; AA003736.						
XX	Recombinant avian prolactin and recombinant avian preprolactin -						
PT	used for avian breeding and proliferation.						
XX	Disclosure; Fig 1; 9pp; Japanese.						
XX	Plasmid pcPRL1 can be transfected into an E.coli expression system,						
CC	the mature prolactin derived, may be used to induce maternal behaviour in						
CC	fowl and encourage breeding and proliferation.						
XX	Sequence	229 AA;					
SQ							
Query Match	66.1%; Score 783; DB 11; Length 229;						
Best Local Similarity	66.8%; Pred. No. 2.8e-67;						
Matches	153; Conservative	32; Mismatches	42; Indels	2; Gaps	2.		
QY	1 MNKSGPMKGSLL-LTLVSNLLLC-OSVAPLPICPGAGRCQVTLRDLFDRAVLSHYIH 58						
DB	1 mnrqgsalkgflflavllvsntlltkegvslplcpgsvncqvsjgelfdravklsyh 60						
QY	59 NUSSEMFSEFDKRYTHGRCFTTKAINSCHTSSLATPEDEKQAQNMNQDELIVSILRS 118						
DB	61 ylsseifnefderlyagqrgfltkavngchsslttpeckeqagqlhdedllnlvgylrs 120						
QY	119 WNEPLTHLVEYRGMOAEPAELLSKAVELEBOTKRLBSMELIVSOVHPETENETYPW 178						
DB	121 wmdplhlhaseygrkkaepdtklwakeleeqnkrlllegmeklvgtrvshgahgnelys 180						
QY	179 SGPSLOMADEESRLSAYVYLLHLCRRDSHKIDNYILKILKCHRIHNNNC 227						
DB	181 dgiptslqadedsrflatynllhchtrdsnkldnylklvklcrllndsn 229						
RESULT 12							
AA87090	AA87090 standard; Protein; 199 AA.						
XX	AA87090;						
XX	13-JUN-1996 (first entry)						
XX	Turkey prolactin.						
XX	Turkey; prolactin; glutathione-S-transferase; fusion protein; egg;						
KW	immunisation; bird; turkey; broodiness; antibody.						
XX	Meleagris gallopavo.						
OS	FR2719480-A1.						
PN	10-NOV-1995.						
XX							

XX 05-MAY-1994; 94FR-0005550.
 XX 05-MAY-1994; 94FR-0005550.
 XX (INRG) INRA INST NAT RECH AGRONOMIQUE.
 XX Guemene D, Karatzas C, Zadworny D;
 XX WPI: 1995-384532/50.
 XX N-PSDB: AAT03456.
 XX Controlling broodiness in birds, esp. turkeys - by active
 XX immunisation with prolactin fusion protein or passive immunisation
 XX with anti-prolactin antibody
 XX Claim 2; Page 27-28; 41pp; French.
 XX This is the sequence of the turkey prolactin. The corresp. gene can
 XX be used to produce a glutathione-S-transferase/prolactin fusion protein
 XX (see AAT03457) for direct immunisation of birds, esp. turkeys, during
 XX the rearing stage of the animal's life, prior to sexual maturity, in
 XX order to prevent or treat broodiness in the birds. Alternatively, the
 XX prolactin protein can be to raise antibodies for passive immunisation
 XX for preventing or treating broodiness during the egg laying stage.
 XX Sequence 199 AA:

Query Match 63.6%; Score 754; DB 16; Length 199;
 Best Local Similarity 68.8%; Pred. No. 1.4e-64;
 Matches 137; Conservative 30; Mismatches 32; Indels 0; Gaps 0;

OY 29 LPICGGAARCOVTLRDLFDRAVVLSHYIHNLSSEMFSEFDRKRYTHGCFITKAINSCHT 88
 ||||| : : : : : ||||| ||||| ||||| : : : : : ||||| : ||||| : |||||
 Db 1 lpicssgvncqvslgelldfravrlshyihfllsselfnefderyagrgflltkavngcht 60
 OY 89 SSLATPEEKQAOQONQDPLSLIVSTRSWNEPLYHLVTEYRGQAEPAEILSKAVEIE 148
 ||||| ||||| : : : : : ||||| : : : : : ||||| : : : : : ||||| : |||||
 Db 61 ssltpedkeqtqqlhneellnlllylrvswndplhlasevqrllkeapdtllkaweile 120
 OY 149 EOTKRLLEGMEILISQVHPETKENEIYPVWSGLPSLOMADEESRLSAVYNLLHCLRRDSH 208
 ||||| ||||| : : : : : ||||| : : : : : ||||| : : : : : ||||| : |||||
 Db 121 eqnkrlllegmekivgrlthsgdagnevfsqwdgllpslqladedesrlfalfynllhclrrdsh 180
 OY 209 KIDWYLLKLCRIIHNNC 227
 ||||| : : : : : ||||| : : : : : ||||| : : : : : ||||| : |||||
 Db 181 kidnyllvllkcrllhdnnc 199

RESULT 13

ID AAR87091 standard; Protein: 426 AA.

XX AAR87091;

XX 13-JUN-1996 (first entry)

XX Turkey prolactin/GST fusion protein.

XX Turkey; prolactin; glutathione-S-transferase; fusion protein; egg;
 XX immunisation; bird; turkey; broodiness; antibody.

XX Synthetic.

XX Key Location/Qualifiers

XX MISC_feature 1..227

XX MISC_feature 228..426 /note="GST portion of fusion protein"

XX /note="turkey prolactin portion of fusion protein"

XX FR2719480-A1.

XX

PD 10-NOV-1995.
 XX 05-MAY-1994; 94FR-0005550.
 XX 05-MAY-1994; 94FR-0005550.
 XX (INRG) INRA INST NAT RECH AGRONOMIQUE.
 XX Guemene D, Karatzas C, Zadworny D;
 XX WPI: 1995-384532/50.
 XX N-PSDB: AAT03457.
 XX Controlling broodiness in birds, esp. turkeys - by active
 XX immunisation with prolactin fusion protein or passive immunisation
 XX with anti-prolactin antibody
 XX Claim 3; Page 29-31; 41pp; French.
 XX This is the sequence of a glutathione-S-transferase/turkey prolactin
 XX fusion protein. The fusion protein can be used to actively immunise
 XX birds, esp. turkeys, pref. during the rearing stage of the animal's
 XX life, prior to sexual maturity, in order to prevent or treat broodiness
 XX in the birds. Alternatively the prolactin protein (R879090) can be
 XX used to raise antibodies for passive immunisation, for preventing or
 XX treating broodiness during the egg laying stages.
 XX Sequence 426 AA:

Query Match 63.6%; Score 754; DB 16; Length 426;
 Best Local Similarity 68.8%; Pred. No. 3.9e-64;
 Matches 137; Conservative 30; Mismatches 32; Indels 0; Gaps 0;

OY 29 LPICGGAARCOVTLRDLFDRAVVLSHYIHNLSSEMFSEFDRKRYTHGCFITKAINSCHT 88
 ||||| : : : : : ||||| ||||| ||||| : : : : : ||||| : ||||| : |||||
 Db 228 lpicssgvncqvslgelldfravrlshyihfllsselfnefderyagrgflltkavngcht 287
 OY 89 SSLATPEEKQAOQONQDPLSLIVSTRSWNEPLYHLVTEYRGQAEPAEILSKAVEIE 148
 ||||| ||||| : : : : : ||||| : : : : : ||||| : : : : : ||||| : |||||
 Db 288 ssltpedkeqtqqlhneellnlllylrvswndplhlasevqrllkeapdtllkaweile 347
 OY 149 EOTKRLLEGMEILISQVHPETKENEIYPVWSGLPSLOMADEESRLSAVYNLLHCLRRDSH 208
 ||||| ||||| : : : : : ||||| : : : : : ||||| : : : : : ||||| : |||||
 Db 348 eqnkrlllegmekivgrlthsgdagnevfsqwdgllpslqladedesrlfalfynllhclrrdsh 407
 OY 209 KIDWYLLKLCRIIHNNC 227
 ||||| : : : : : ||||| : : : : : ||||| : : : : : ||||| : |||||
 Db 408 kidnyllvllkcrllhdnnc 426

RESULT 14

ID AAR14599 standard; Protein: 226 AA.

XX AAR14599;

XX 21-JAN-1992 (first entry)

XX Rat prolactin.

XX Recombinant DNA.

XX Rattus rattus.

XX JP03219876-A.

XX 27-SEP-1991.

XX 24-JAN-1990; 90JP-0014511.

XX 24-JAN-1990; 90JP-0014511.

XX

PA	(SHIK-)	SHIKISHIMA BOSEKI K.
XX		
DR	WPI: 1991-332911/45.	
DR	N-PSDB: AAQ14451, AAQ14452.	
XX		
PT	Mass-prodn. of rat prolactin-producing recombinant DNA - is by	
PT	integration of promoter, Shine-Dalgarno sequence and translation	
PT	initiation codon upstream of table 1 coding gene.	
XX		
PS	Disclosure; Table 1: 12pp; Japanese.	
XX		
CC	The gene encoding the protein can be ligated into an expression	
CC	plasmid with a promoter, SD sequence and initiation codon for the	
CC	prodn. of recombinant rat prolactin. The protein is useful for the	
CC	study of the physiological activity of rat and human prolactin.	
XX		
SO	Sequence 226 AA;	

	61.6%;	Score 729.5; DB 12;	Length 226;
	Best Local Similarity	61.8%; Pred.	No. 3.8e-62;
	Matches 141;	Conservative 36;	Mismatches 48; Indels 3; Gaps 2;
OY	1	MNIKSPMK-GSLILLVSNLLLCOSVA	RPLPCGGAARCOYTLDLPDRAVLNLSHYHN 59
Db	1	mmsqgsakkaqltlllmnsnllfcgnyvltlpcsggg--dcqpdlpelldrvymlyshylht	58
OY	60	LSESEFSEFDKRYTHGRGFTRKAINSCHTSSLATPEDEKEAOOMONKDPLSLIVSLRSM	119
Db	59	lytlmflfcdclgyqvdfrefiaakaindcpstssatrpdekdegaqkvyppevlmlnlslaw	118
OY	120	NELYLHLEVRKGMEADPAEALLSKAVEIEEQTKRLLEGNELIVSOVHPETKENIYPWWS	179
Db	119	nrdplfqiltlgylglnheapdaaisrakeleogqrkrlleglekllsqayepakgnelylws	178
OY	180	GILPSLOMADESRLSAYYYNLHCRRDSHKIDNYLKLKKRIIHNNC	227
Db	179	qlpsrgyvveeskdaIatYnmliclrtdshkhxvanyklfkicrqivhnnc	226

RESULT	15
ID	AAP82078
XX	AAP82078 standard; protein; 225 AA.
AC	AAP82078;
XX	
DT	18-OCT-1990 (first entry)
XX	
DE	Recombinant rat preprolactin.
XX	
KW	Prolactin; milk; contraceptive; dairy cows; lactation.
XX	
OS	Rattus rattus.
XX	
Key	
FH	Location/Qualifiers
FT	1..225
FT	/label-preprolactin
FT	29..225
FT	/label-prolactin
XX	
PN	US4725549-A.
XX	
PD	16-FEB-1988.
XX	
PE	23-MAR-1984; 84US-0592714.
XX	
PR	22-SEP-1980; 80US-0189160.
PR	23-MAR-1984; 84US-0592714.
XX	
PA	(REGC) UNIVERSITY OF CALIFORNIA.
XX	
PI	Cooke NE, Baxter JD;
XX	

DR	WPI: 1988-070922/10.
DR	N-PSDB; AAN80114.
XX	
PT	DNA coding for prolactin - obtd. by prepn. of reverse transcript
PT	of mRNA coding for prolactin and inserting into a transfer vector.
XX	
PS	Disclosure; ; P: English.
XX	
CC	The cdna encoding the prolactin can be inserted into expression vectors
CC	for the prodn. of rat prolactin which can be admin. to dairy cows to
CC	increase milk yield. The protein can also be used as a female
CC	contraceptive and to ensure adequate milk prodn. for breast feeding
CC	mothers.
CC	See also AAP82079.
XX	
XX	
SQ	Sequence 225 AA;

	Query Match	61.5%;	Score 92;	DB 9;	Length 225;
	Best Local Similarity	61.2%;	Pred. No. 4,2e-62;		
Matches	139;	Conservative	37;	Mismatches	49; Indels 2; Gaps 1;
OY	1	MIKIGSPWKSGLLLLVSNLLCOSVAPLPICPGGAARCOYTLDLDRDRAVVLSHYIHLN	60		
		: : : : : : : : : : : : : : :			
Db	1	mmsvgsrsktlllmmnsnllfcgqvultlpvcsg - -dcgtfpdellfapvmvlyihltl	58		
OY	61	SSEAFSEFDRIYTHGRGFITRKAINSCHTSSLATPEDEKQAOAOMOKDFLSIVSLIRSMN	120		
		: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :			
Db	59	yldmfifedfdqgyvdrefleakndcptsstlatpekedeqakvypelllnllslatvsnm	118		
OY	121	EPLYLHLEVRGMOAPEALISKAVEIEBQTRLLEGMEILISVOHPETKENEYIPWSWG	180		
		: : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : : :			
Db	119	dplftqlitlglygtheaadallstrakeleeqnkrllegleklaadaypeakgneylwswq	178		
OY	181	LPSLOMADDESRLSAYYNILCHLCRDSKKIDNYIKTLKCRIITHNNNC	227		
		: : : : : : : : : : : : : : : : : : : : : : : : : : : : : :			
Db	179	lpslpgydeeskdlafynmlclrttdshkvnyklflircqylvhknc	225		

```
Search completed: April 25, 2002, 11:06:05
Job time: 130 sec
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GenCore version 4.5
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OM protein - protein search, using sw model

Run on: April 25, 2002, 11:07:21 ; Search time 23.48 Seconds

(without alignments)
1414.132 Million cell updates/sec

Title: US-09-815-306-1

Perfect score: 227

Sequence: 1 MNKGSPPKSGSLLLLSNL.....HKIDNYIKLKCRITNNNC 227

Scoring table: OLIGO
Gapop 60.0 , Gapext 60.0

Searched: 473505 seqs, 146272329 residues

Word size : 0

Total number of hits satisfying chosen parameters: 473505

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Listing first 45 summaries

Database :

SPREMBL_17:*
1: sp_archaea:*
2: sp_bacteria:*
3: sp_fungi:*
4: sp_human:*
5: sp_invertebrate:*
6: sp_mammal:*
7: sp_mhc:*
8: sp_organelle:*
9: sp_phage:*
10: sp_plant:*
11: sp_rodent:*
12: sp_virus:*
13: sp_vertebrate:*
14: sp_unclassified:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	218	96.0	228	09NUH9	09nuh9 homo sapien
2	44	19.4	199	09TS41	09ts41 papio (dabo
3	35	15.4	44	09UD43	09ud43 homo sapien
4	19	8.4	229	09DE13	09de13 gallus galli
5	16	7.0	16	09UP51	09up51 homo sapien
6	14	6.2	161	063293	063293 ratius norv
7	13	5.7	227	09CYL2	09cy12 mus musculu
8	13	5.7	227	09CPO0	09cp00 mus musculu
9	13	5.7	228	09CYL8	09cy18 mus musculu
10	13	5.7	228	09CPO2	09cp02 mus musculu
11	12	5.3	103	09PSP9	09psp9 xenopus lae
12	12	5.3	103	09PSP8	09psp8 xenopus lae
13	11	4.8	225	09QZL1	09qz11 microtus co
14	10	4.4	61	09PWF9	09pwf9 coturnix co
15	10	4.4	227	035256	035256 mus sapien
16	9	4.0	9	09UOW0	09uow0 homo sapien
17	9	4.0	220	09R0S8	09r0s8 ratius norv
18	9	4.0	228	09O1I3	09o1i3 ratius norv
19	9	4.0	228	09J1O5	09j1o5 mus musculu

20	9	4.0	228	11	09JHK0	09jkh0 mus musculu
21	8	3.5	20	13	09PWQ4	09pwq4 gallus galli
22	8	3.5	210	13	091170	091170 oncorhynch
23	8	3.5	210	13	091364	091364 oncorhynch
24	8	3.5	210	13	P87495	P87495 carassius a
25	8	3.5	211	13	09YCV6	09yvc6 paralicthy
26	8	3.5	212	13	093337	093337 sparus aua
27	8	3.5	212	13	091819	091819 ictalurus p
28	8	3.5	227	11	09CQR8	09cqr8 mus musculu
29	8	3.5	324	5	044166	044166 caenorhabdi
30	8	3.5	362	2	056591	056591 listonella
31	8	3.5	3851	4	043161	043161 homo sapien
32	8	3.5	3926	4	09UP45	09up45 homo sapien
33	8	3.5	3938	11	088778	088778 ratius norv
34	8	3.5	3942	11	088737	088737 mus musculu
35	7	3.1	18	11	09JTM8	09jtm8 ratius norv
36	7	3.1	32	6	09TR18	09tr18 macropus ru
37	7	3.1	50	10	041532	041532 triticum ae
38	7	3.1	57	5	09VE38	09ve38 drosophila
39	7	3.1	66	13	091889	091889 oncorhynch
40	7	3.1	73	2	09F659	09f659 helicobacte
41	7	3.1	73	2	09F658	09f658 helicobacte
42	7	3.1	90	2	09RTB8	09rtb8 delinococcus
43	7	3.1	99	12	09QND1	09qnd1 hantean vir
44	7	3.1	99	12	09QND0	09qnd0 hantean vir
45	7	3.1	99	12	09QND5	09qnd5 hantean vir

ALIGNMENTS

RESULT 1
ID 09NUH9 PRELIMINARY; PRT: 228 AA.
AC 09NUH9
DT 01-OCT-2000 (TREMBLrel. 15, Created)
DT 01-OCT-2000 (TREMBLrel. 15, Last sequence update)
DT 01-JUN-2001 (TREMBLrel. 17, Last annotation update)
DE DJ404K8.1 (PROLACTIN).
GN PRL.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.
OX NCBI_Taxid:9606;
RN [1]
RP SEQUENCE FROM N.A.
RA Nickerson T.;
RL Submitted (FE8-2000) to the EMBL/GenBank/DBJ databases.
DR EMBL; AL023883; CAB75684.1;
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
SQ SEQUENCE 228 AA; 25947 MW; C592E517CE186EA2 CRC64;

Query Match 96.0% Score 218; DB 4; Length 228;
Best Local Similarity 100.0%; Pred. No. 2.9e-217; Indels 0; Gaps 0;
Matches 218; Conservative 0; Mismatches 0;

QY 10 GSLLLLVSNLLCOSVAPLPICPGARCOVTLRDLDPRAVLSHYTHNLSEMFSEED 69
DB 11 GSLLLLVSNLLCOSVAPLPICPGARCOVTLRDLDPRAVLSHYTHNLSEMFSEED 70
QY 70 KRYHGRGFITKAINSCHTSLAPEDKEQAQOMNOKOFLSLIVSLRSMNPLVLYTE 129
DB 71 KRYHGRGFITKAINSCHTSLAPEDKEQAQOMNOKOFLSLIVSLRSMNPLVLYTE 130
QY 130 VRGMOAPEALISRAVELEEDTKRLLEGMEILVSVHRETKENETYPWMSGLPSIQMADE 189
DB 131 VRGMOAPEALISRAVELEEDTKRLLEGMEILVSVHRETKENETYPWMSGLPSIQMADE 190

OY 190 ESRLSAYNNLHCLRRDSHKIDNYLKLKCRITHHNNC 227
 DB 191 ESRLSAYNNLHCLRRDSHKIDNYLKLKCRITHHNNC 228

RESULT 2

O9TSA1 PRELIMINARY: PRT: 199 AA.
 AC O9TSA1; 01-MAY-2000 (TREMBlrel. 13, Created)
 DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
 DE PROLACTIN.
 OS Papio (baboons).
 OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopitheciidae;
 OC Cercopitheciinae.
 OX NCBI_TaxID=9554;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=92037387; PubMed=1935793;
 RA Cole E.S., Nichols E.H., Lauziere K., Edmunds T., McPherson J.M.;
 RT "Characterization of the microheterogeneity of recombinant primate
 prolactin: implications for posttranslational modifications of the
 hormone in vivo.";
 RL Endocrinology 129:2639-2646(1991).
 DR HSSP: Q28632; IAN3.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 DR PRINTS: PR00836; SOMATOTROPIN.
 DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
 SQ SEQUENCE 199 AA; 22850 MW; 872A8935FEA43E67 CRC64;

Query Match 19.4%; Score 44; DB 6; Length 199;
 Best Local Similarity 100.0%; Pred. No. 3.1e-37;
 Matches 44; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 135 EAPETILSKAVEIEOTRRLLEGMLYSQVHPETKEKEIYIPWV 178
 DB 107 EAPETILSKAVEIEOTRRLLEGMLYSQVHPETKEKEIYIPWV 150

RESULT 3

ID O9UDA3 PRELIMINARY: PRT: 44 AA.
 AC O9UDA3; 01-MAY-2000 (TREMBlrel. 13, Created)
 DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
 DE PROLACTIN (FRAGMENT).
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=93292510; PubMed=8513798;
 RA Goffin V., Struman I., Goormaghtigh E., Martial J.A.;
 RT "The addition of nine residues at the C-terminus of human prolactin
 RT drastically alters its biological properties.";
 RL Eur. J. Biochem. 214:483-490(1993).
 DR HSSP: Q28632; IAN3.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
 SQ SEQUENCE 44 AA; 5416 MW; 707E91C6398F4BF CRC64;

Query Match 15.4%; Score 35; DB 4; Length 44;
 Best Local Similarity 100.0%; Pred. No. 1.8e-28;
 Matches 35; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 193 LSAVYNNLHCLRRDSHKIDNYLKLKCRITHHNNC 227
 DB 1 LSAVYNNLHCLRRDSHKIDNYLKLKCRITHHNNC 35

RESULT 4

O9DEI3 PRELIMINARY: PRT: 229 AA.
 AC O9DEI3; 01-MAR-2001 (TREMBlrel. 16, Created)
 DT 01-MAR-2001 (TREMBlrel. 16, Last sequence update)
 DE PROLACTIN.
 OS Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC Gallus.
 OX NCBI_TaxID=9031;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Okubo T., Tanaka M., Nakashima K.;
 RT "Cloning and characterization of chicken prolactin gene.";
 RL Submitted (FEB-1998) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AB011438; BAB18728.1; -.
 DR EMBL: AB011435; BAB18728.1; JOINED.
 DR EMBL: AB011436; BAB18728.1; JOINED.
 DR EMBL: AB011437; BAB18728.1; JOINED.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 DR PRINTS: PR00836; SOMATOTROPIN.
 DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
 SQ SEQUENCE 229 AA; 25863 MW; 11314FE65F775AE CRC64;

Query Match 8.4%; Score 19; DB 13; Length 229;
 Best Local Similarity 100.0%; Pred. No. 2.6e-11;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLK 215
 DB 199 YNLHCLRRDSHKIDNYLK 217

RESULT 5

ID O9UP51 PRELIMINARY: PRT: 16 AA.
 AC O9UP51; 01-MAY-2000 (TREMBlrel. 13, Created)
 DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
 DE PROLACTIN (FRAGMENT).
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Cranialata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.
 OX NCBI_TaxID=9606;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=84264464; PubMed=6146607;
 RA Takahashi H., Nabeshima Y., Nabeshima Y., Ogata K., Takeuchi S.;
 RT "Molecular cloning and nucleotide sequence of DNA complementary to
 RT human decidal prolactin mRNA.";
 RL J. Biochem. 95:1491-1499(1984).
 RN [2]
 RP SEQUENCE FROM N.A.
 RA Stevens F.R.A., Hajeer A., John S., Thomson W., Worthington J.,
 RA Davis J.R.E., Ollier W.E.R.;
 RT Submitted (MAY-1998) to the EMBL/GenBank/DBJ databases.
 DR EMBL: AF068859; AAD12943.1; -.
 DR HSSP: Q28632; IAN3.
 FT NON_TER 1 1

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FT NON_TER 16 16
SQ SEQUENCE 16 AA: 1877 MW: 388F0E59FC3F2F CRC64:

Query Match
Best Local Similarity 100.0%; Score 16; DB 4; Length 16;
Matches 16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 183 SLOWADEESRLSAYYN 198
   |||||
Db 1 SLOWADEESRLSAYYN 16

RESULT 6
ID 063293 PRELIMINARY; PRT: 161 AA.
AC 063293;
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DE PROLACTIN PRECURSOR (PRL) (FRAGMENT).
GN PRL.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX NCBI_TaxID=10116;
RN 1;
RP SEQUENCE FROM N.A.
RX MEDLINE=79179804; PubMed=375200;
RA Gubbins E.J., Maurer R.A., Hartley J.L., Donelson J.E.;
RT "Construction and analysis of recombinant DNAs containing a structural
   gene for rat prolactin."
RL Nucleic Acids Res. 6:915-930(1979).
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
   PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR EMBL: V01230; CA24563.1; -.
DR HSSP: Q28632; IAN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1. 1.
KW Hormone; Parturition; Lactation; Pituitary; Signal.
FT NON_TER 1 1
FT SIGNAL <1 16
FT CHAIN 17 >161 PROLACTIN.
FT DISULFID 20 25 BY SIMILARITY.
FT NON_TER 161 161
SQ SEQUENCE 161 AA: 18228 MW: 0B1E02D9AA91B17F CRC64:

Query Match
Best Local Similarity 100.0%; Score 14; DB 11; Length 161;
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 88 TSSLATPEDEKQAO 101
   |||||
Db 74 TSSLATPEDEKQAO 87

RESULT 7
ID 09CYL2 PRELIMINARY; PRT: 227 AA.
AC 09CYL2;
DT 01-JUN-2001 (TREMBlrel. 17, Created)
DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
DE PROLACTIN.
GN PRL.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

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OX NCBI_TaxID=10090;
RN 11;
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=EMBRYO;
RX MEDLINE=21085660; PubMed=11217851;
RA Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamataka I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochwa H.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schriml L.M., Staabli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Lyons P., Marchionni L., Mashima J., Mazzaelli J., Mombaerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibaya T., Storch K.F.,
RA Suzuki H., Toyooka K., Wang K.H., Weitz C., Whitaker C., Wilming L.,
RA Wyszewski-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohlsuk S.,
RA Hayashizaki Y.,
RT "Functional annotation of a full-length mouse cDNA collection."
RL Nature 409:685-690(2001).
DR EMBL: AK017562; BAB30806.1; -.
DR MCD: MG1:97762; PRL.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00338; SOMATOTROPIN_2. 1.
SQ SEQUENCE 227 AA: 25771 MW: F24B1D68BB89D54 CRC64:

Query Match
Best Local Similarity 100.0%; Score 13; DB 11; Length 227;
Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 88 TSSLATPEDEKQAO 100
   |||||
Db 88 TSSLATPEDEKQAO 100

RESULT 8
ID 09CP00 PRELIMINARY; PRT: 227 AA.
AC 09CP00;
DT 01-JUN-2001 (TREMBlrel. 17, Created)
DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
DE PROLACTIN.
GN PRL.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN 11;
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=EMBRYO;
RX MEDLINE=21085660; PubMed=11217851;
RA Kawai J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamataka I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochwa H.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schriml L.M., Staabli F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Kamiya M., Lee N.H.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamiya M., Lee N.H.,
RA Lyons P., Marchionni L., Mashima J., Mazzaelli J., Mombaerts P.,

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RA Nordone P., Ringwald M., Rodriguez I., Sakamoto N.,
 RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
 RA Suzuki H., Toyono-oka K., Wang K.H., Weitz C., Whitaker C., Wilming L.,
 RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohlsuki S.,
 RA Hayashizaki Y.,
 RT "Functional annotation of a full-length mouse cDNA collection."
 RL Nature 409:685-690(2001).
 DR EMBL: AK017584; BAB30821.1; -
 DR EMBL: AK017520; BAB30786.1; -
 DR MGD: MGI:97762; PRL.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 DR PRINTS: PR00836; SOMATOTROPIN.
 DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
 SO SEQUENCE 227 AA; 25657 MW; CFP9840CA760FA7F CRC64;

Query Match 5.7%; Score 13; DB 11; Length 227;
 Best Local Similarity 100.0%; Pred. No. 4,2e-05;
 Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 88 TSSLATPEDEKQA 100
 Db 88 TSSLATPEDEKQA 100

RESULT 9
 O9CYL8 PRELIMINARY: PRT; 228 AA.
 AC O9CYL8:
 DT 01-JUN-2001 (TREMBlrel. 17, Created)
 DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
 DT 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
 DE PROLACTIN.
 GN PRL.
 OS Mus musculus (Mouse)
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=EMBRYO;
 RX MEDLINE=21085660; PubMed=11217851;
 RA Kawai J., Shingawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
 RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
 RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana K.I.,
 RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
 RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
 RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochwa H.,
 RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
 RA Schirml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
 RA Sakai K., Oikido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
 RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
 RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
 RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
 RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamlya M., Lee N.H.,
 RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
 RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
 RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
 RA Suzuki H., Toyono-oka K., Wang K.H., Weitz C., Whitaker C., Wilming L.,
 RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohlsuki S.,
 RA Hayashizaki Y.,
 RT "Functional annotation of a full-length mouse cDNA collection."
 RL Nature 409:685-690(2001).
 DR EMBL: AK017547; BAB30799.1; -
 DR MGD: MGI:97762; PRL.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 DR PRINTS: PR00836; SOMATOTROPIN.
 DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
 SO SEQUENCE 228 AA; 25756 MW; 40B670424B89523B CRC64;

Query Match 5.7%; Score 13; DB 11; Length 228;

Best Local Similarity 100.0%; Pred. No. 4,2e-05;
 Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 88 TSSLATPEDEKQA 100
 Db 89 TSSLATPEDEKQA 101

RESULT 10
 O9CP02 PRELIMINARY: PRT; 228 AA.
 AC O9CP02:
 DT 01-JUN-2001 (TREMBlrel. 17, Created)
 DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
 DT 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
 DE PROLACTIN.
 GN PRL.
 OS Mus musculus (Mouse)
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 OX NCBI_TaxID=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=EMBRYO;
 RX MEDLINE=21085660; PubMed=11217851;
 RA Kawai J., Shingawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
 RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
 RA Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana K.I.,
 RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
 RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
 RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochwa H.,
 RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
 RA Schirml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
 RA Sakai K., Oikido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
 RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
 RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamlya M., Lee N.H.,
 RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
 RA Nordone P., Ringwald M., Rodriguez I., Sakamoto N.,
 RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
 RA Suzuki H., Toyono-oka K., Wang K.H., Weitz C., Whitaker C., Wilming L.,
 RA Wynshaw-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohlsuki S.,
 RA Hayashizaki Y.,
 RT "Functional annotation of a full-length mouse cDNA collection."
 RL Nature 409:685-690(2001).
 DR EMBL: AK017579; BAB30816.1; -
 DR EMBL: AK017521; BAB30787.1; -
 DR MGD: MGI:97762; PRL.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 DR PRINTS: PR00836; SOMATOTROPIN.
 DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
 SO SEQUENCE 228 AA; 25728 MW; AFCADF003728CD77 CRC64;

Query Match 5.7%; Score 13; DB 11; Length 228;
 Best Local Similarity 100.0%; Pred. No. 4,2e-05;
 Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 Oy 88 TSSLATPEDEKQA 100
 Db 89 TSSLATPEDEKQA 101

RESULT 11
 O9PSP9 PRELIMINARY: PRT; 103 AA.
 AC O9PSP9:
 DT 01-MAY-2000 (TREMBlrel. 13, Created)
 DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
 DT 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
 DE PROLACTIN, xPRL-T (FRAGMENTS).
 OS Xenopus laevis (African clawed frog).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidoidea; Pipidae;
 OC Xenopodinae; Xenopus.
 RN NCB1_TaxID=83355;
 RP SEQUENCE.
 RX MEDLINE=94040640; PubMed=8224774;
 RA Yamashita K., Matsuda K., Hayashi H., Hanaoka Y., Tanaka S.,
 RT "Isolation and characterization of two forms of Xenopus prolactin.";
 RL Gen. Comp. Endocrinol. 91:307-317(1993).
 DR HSSP: Q28632: 1AN3.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 FT NON_TER 1
 FT NON_CONS 20 21
 FT NON_TER 103 103
 SQ SEQUENCE 103 AA; 11461 MW; 37A5894E7A92F6F0 CRC64;

Query Match 5.3%; Score 12; DB 13; Length 103;
 Best Local Similarity 100.0%; Pred. No. 0.00023;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 148 EEOQTRKLEGME 159
 |||||
 DB 51 EEOQTRKLEGME 62

RESULT 12

ID Q9PSP8 PRELIMINARY; PRT: 103 AA.
 AC Q9PSP8;
 DT 01-MAY-2000 (TREMBLrel. 13, Created)
 DT 01-MAY-2000 (TREMBLrel. 13, Last sequence update)
 DT 01-JUN-2001 (TREMBLrel. 17, Last annotation update)
 DE PROLACTIN, XPRL-II (FRAGMENT).
 OS Xenopus laevis (African clawed frog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Amphibia; Batrachia; Anura; Mesobatrachia; Pipidoidea; Pipidae;
 OC Xenopodinae; Xenopus.
 RN NCB1_TaxID=83355;
 RP SEQUENCE.
 RX MEDLINE=94040640; PubMed=8224774;
 RA Yamashita K., Matsuda K., Hayashi H., Hanaoka Y., Tanaka S.,
 RT "Isolation and characterization of two forms of Xenopus prolactin.";
 RL Gen. Comp. Endocrinol. 91:307-317(1993).
 DR HSSP: Q28632: 1AN3.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 FT NON_TER 1
 FT NON_CONS 20 21
 FT NON_TER 103 103
 SQ SEQUENCE 103 AA; 11658 MW; F4484BB6AD570240 CRC64;

Query Match 5.3%; Score 12; DB 13; Length 103;
 Best Local Similarity 100.0%; Pred. No. 0.00023;
 Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 148 EEOQTRKLEGME 159
 |||||
 DB 51 EEOQTRKLEGME 62

RESULT 13

ID Q9OZL1 PRELIMINARY; PRT: 225 AA.
 AC Q9OZL1;
 DT 01-MAY-2000 (TREMBLrel. 13, Created)
 DT 01-MAY-2000 (TREMBLrel. 13, Last sequence update)

DT 01-JUN-2001 (TREMBLrel. 17, Last annotation update)
 DE PROLACTIN.
 GN PRL.
 OS Microtus montebelli (Japanese grass vole).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Arvicolinae;
 OC Microtus.
 RN NCB1_TaxID=79202;
 RP SEQUENCE FROM N.A.
 RA Ohnohshi S., Asami W., Kaneko M., Yoshida S., Yoshida T., Tomogane H.,
 RT "Sequencing of prolactin cDNA of Japanese field vole.";
 RL Submitted (Aug-1999) to the EMBL/Genbank/DBJ databases.
 DR EMBL: AF178933; AAD53180.1; .
 DR HSSP: Q28632: 1AN3.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 DR PRINTS: PR00836; SOMATOTROPIN.
 DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
 SQ SEQUENCE 225 AA; 25719 MW; 323383E8407085BA CRC64;

Query Match 4.8%; Score 11; DB 11; Length 225;
 Best Local Similarity 100.0%; Pred. No. 0.0048;
 Matches 11; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 88 TSSLATPEDEKE 98
 |||||
 DB 86 TSSLATPEDEKE 96

RESULT 14

ID Q9PWF9 PRELIMINARY; PRT: 61 AA.
 AC Q9PWF9;
 DT 01-MAY-2000 (TREMBLrel. 13, Created)
 DT 01-MAY-2000 (TREMBLrel. 13, Last sequence update)
 DT 01-JUN-2001 (TREMBLrel. 17, Last annotation update)
 DE PROLACTIN (FRAGMENT).
 GN PRL.
 OS Coturnix coturnix japonica (Japanese quail).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC Coturnix.
 RN NCB1_TaxID=93934;
 RP SEQUENCE FROM N.A.
 RA Kansaku N., Shimada K.,
 RT "Partial PCR cloning of quail prolactin.";
 RL Submitted (Aug-1999) to the EMBL/Genbank/DBJ databases.
 DR EMBL: AB030910; BAA83342.1; .
 DR HSSP: Q28632: 1AN3.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 DR PRINTS: PR00836; SOMATOTROPIN.
 DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
 FT NON_TER 1
 FT NON_TER 61 61
 SQ SEQUENCE 61 AA; 6994 MW; 71516E7E06983EF CRC64;

Query Match 4.4%; Score 10; DB 13; Length 61;
 Best Local Similarity 100.0%; Pred. No. 0.017;
 Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 93 TPEDKEQAOQ 102
 |||||
 DB 35 TPEDKEQAOQ 44

RESULT 15

O35256

```

ID 035256      PRELIMINARY;      PRT;      227 AA.
AC 035256;
DT 01-JAN-1998 (TREMblrel. 05, Created)
DT 01-JAN-1998 (TREMblrel. 05, Last sequence update)
DT 01-JUN-2001 (TREMblrel. 17, Last annotation update)
DE PROLACTIN-LIKE PROTEIN A PRECURSOR.
GN PLPA OR PLP-A.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Euteria; Rodentia; Sciurognathi; Muridae; Mus.
OX NCBI_TaxId=10090;
RN [1]
RP SEQUENCE FROM N.A.
RA Muller H., Ishimura R., Orwig K.E., Liu B., Soares M.J.;
RL Submitted (SEP-1997) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J;
RX MEDLINE=98049410; PubMed=9389542;
RA Lin J., Poole J., Linzer D.I.;
RT "Three new members of the mouse prolactin/growth hormone family are
RL homologous to proteins expressed in the rat.";
RL Endocrinology 138:5541-5549(1997).
RN [3]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J;
RA Lin J., Poole J., Linzer D.I.;
RL Submitted (JUN-1997) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF015562; AAB68824.1; -.
DR EMBL; AF011383; AAB92399.1; -.
DR HSP; Q28632; IAN3.
DR MGD; MGI:1206587; Plpa.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone.1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; UNKNOWN_1.
KW Signal.
FT SIGNAL.
FT CHAIN.
SQ SEQUENCE 227 AA; 26336 MW; 585B2731DCED57B6 CRC64;

```

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Query Match 4.4%; Score 10; DB 11; Length 227;
Best Local Similarity 100.0%; Pred. No. 0.053;
Matches 10; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 13 LLLVSNLL 22
   ||| ||| |||
DB 15 LLLVSNLL 24

```

Search completed: April 25, 2002, 11:09:19
 Job time: 118 sec

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: April 25, 2002, 11:07:01 ; Search time 17.16 Seconds
(without alignments)
1007.670 Million cell updates/sec

Title: US-09-815-306-1

Perfect score: 227

Sequence: 1 MNKGSPPKSGSLLLVSNL.....HKIDNYLKLKCRITNNNC 227

Scoring table: OLIGO
Gapop 60.0 , Gapext 60.0

Searched: 219241 seqs, 76174552 residues

Word size : 0

Total number of hits satisfying chosen parameters: 219241

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Listing first 45 summaries

Database :

PIR_68:*
1: PIR1:*
2: PIR2:*
3: PIR3:*
4: PIR4:*

Prod. No. is the number of results predicted by chance to have a
score greater than or equal to the score of the result being printed,
and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	ID	Description
1	227	100.0	227	1 LCHU	prolactin precursor
2	195	85.9	228	2 A61402	prolactin precursor
3	26	11.5	199	2 S15131	prolactin - Arabia
4	26	11.5	229	1 LCPC	prolactin - precursor
5	25	11.0	175	2 S18882	prolactin - Americ
6	25	11.0	199	1 LCHO	prolactin - horse
7	24	10.6	134	2 I51233	prolactin - Japane
8	24	10.6	198	1 A60620	prolactin - green
9	24	10.6	207	2 A60969	prolactin precursor
10	19	8.4	229	2 A61133	prolactin precursor
11	19	8.4	229	2 A60972	prolactin precursor
12	17	7.5	229	2 JC4631	prolactin precursor
13	16	7.0	199	2 PM0128	prolactin - sel wh
14	14	6.2	226	1 LCRT	prolactin precursor
15	13	5.7	228	1 LCMS	prolactin precursor
16	12	5.3	229	1 LCBO	prolactin precursor
17	12	5.3	229	1 LCCH	prolactin precursor
18	12	5.3	229	2 I83982	prolactin precursor
19	10	4.4	188	2 B28106	prolactin - goat
20	10	4.4	199	2 JS0430	prolactin - 24K - M
21	10	4.4	212	2 A32477	prolactin - elepha
22	10	4.4	212	2 I51034	prolactin I precu
23	10	4.4	223	2 A49160	prolactin-I - Moza
24	10	4.4	227	2 A24911	placental lactogen
25	9	4.0	200	2 S34604	prolactin-like pro
26	9	4.0	209	2 S30541	prolactin - marble
27	8	3.5	177	2 A28106	prolactin precursor
28	8	3.5	187	2 S06677	prolactin, 20K - M
29	8	3.5	187	2 S02304	prolactin II - chu

30	8	3.5	200	2 B32477	prolactin II precu
31	8	3.5	207	2 S21965	prolactin - silver
32	8	3.5	210	1 S01435	prolactin precursor
33	8	3.5	210	2 I51084	prolactin precursor
34	8	3.5	210	2 PN0092	prolactin precursor
35	8	3.5	210	2 S16765	prolactin precursor
36	8	3.5	210	2 A31364	prolactin precursor
37	8	3.5	210	2 S34351	prolactin precursor
38	8	3.5	210	2 S52475	prolactin - Atlant
39	8	3.5	210	2 S71486	prolactin precursor
40	8	3.5	211	2 S00359	prolactin precursor
41	8	3.5	212	2 I51275	prolactin precursor
42	8	3.5	226	2 A49159	prolactin - golden
43	8	3.5	236	2 A37930	placental lactogen
44	8	3.5	238	2 B36284	prolactin-like pro
45	8	3.5	324	2 T32535	hypothetical prote

ALIGNMENTS

RESULT 1

LCHU

prolactin precursor [validated] - human
C:Species: Homo sapiens (man)

C:Date: 30-Jun-1979 #sequence, revision 23-Oct-1981 #text_change 08-Dec-2000

C:Accession: A90998; A92318; A28867; PN0089; A92177; A01505

R:Truong, A.T.; Duez, C.; Belayew, A.; Renard, A.; Pictet, R.; Bell, G.I.; Martial, J
EMBO J. 3, 429-437, 1984

A:Title: Isolation and characterization of the human prolactin gene.

A:Reference number: A90998; MUID:84182507

A:Accession: A90998

A:Molecule type: DNA

A:Residues: 1-227 <TRU>

R:Cooke, N.E.; Colt, D.; Shine, J.; Baxter, J.D.; Martial, J.A.
J. Biol. Chem. 256, 4007-4016, 1981

A:Title: Human prolactin: cDNA structural analysis and evolutionary comparisons.

A:Reference number: A92318; MUID:81168179

A:Accession: A92318

A:Molecule type: mRNA

A:Residues: 1-227 <COO>

R:Yakushiji, H.; Nabeshima, Y.; Nabeshima, Y.; Ogata, K.; Takeuchi, S.
J. Biochem. 95, 1491-1499, 1984

A:Title: Molecular cloning and nucleotide sequence of DNA complementary to human dect

A:Reference number: A28867; MUID:84264464

A:Accession: A28867

A:Molecule type: mRNA

A:Residues: 1-205, 'H', 207-227 <TAK>

A:Cross-references: EMBL:M29386
A:Note: the authors translated the codon CAT for residue 206 as Asp

R:Metvelsov, N.P.; Golovin, S.Y.; Zelenin, S.M.; Morozova, T.V.; Karginov, V.A.; Che

Biorog. Khim. 13, 1687-1690, 1987

A:Title: Synthesis, cloning and sequencing of cDNA complementary to mRNA of prolactin

A:Reference number: PN0089; MUID:88221681

A:Accession: PN0089

A:Molecule type: mRNA

A:Residues: 45-227 <MER>

A:Experimental source: pituitary gland

A:Note: the authors translated the codon AAC for residue 15 as Asp

R:Shome, B.; Parlow, A.F.
J. Clin. Endocrinol. Metab. 45, 1112-1115, 1977

A:Title: Human pituitary prolactin (hPRL): the entire linear amino acid sequence.

A:Reference number: A92762; MUID:78046207

A:Accession: A92762

A:Molecule type: protein

A:Residues: 29-109, 'VS', 112, 'L', 115-132, 'X', 134-171, 'D', 173-189, 'SE', 192-227 <SHO>

R:Jacobs, J.W.; Mall, H.D.
J. Biol. Chem. 250, 3629-3636, 1975

A:Title: High sensitivity automated sequence determination of polypeptides.

A:Reference number: A92177; MUID:75151509

A:Accession: A92177

A:Molecule type: protein

A:Residues: 29-52, 'L' <JAC>

C:Genetics:

A:Gene: GDB:PRL

A:Cross-references: GDB:119517; OMIM:176760

A:Map position: 6p22.2-6p22.1

A:Introns: 9/3; 68/3; 104/3; 164/3

C:Superfamily: prolactin

C:Keywords: anterior pituitary; hormone; lactation; placenta

F:1-28/Domain: signal sequence #status predicted <SIG>

F:29-227/Product: prolactin #status experimental <MAT>

F:32-39, 86-202, 219-227/Disulfide bonds: #status predicted

Query Match

Best Local Similarity 100.0%; Score 227; DB 1; Length 227;

Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 MNKSPKSGSLLLVSNLLCGVAFLPCPGCAACQVTLRDLFRAVYLSHYIHL 60
 DB 1 MNKSPKSGSLLLVSNLLCGVAFLPCPGCAACQVTLRDLFRAVYLSHYIHL 60
 OY 61 SEMSEFDKRYTHGRGFTTKAINSCHTSLATPEDKEAOQOMKDFLSLIVSLRSBN 120
 DB 61 SEMSEFDKRYTHGRGFTTKAINSCHTSLATPEDKEAOQOMKDFLSLIVSLRSBN 120
 OY 121 EPLVHLTVRGMQEPAPAILSKAVEIEQTKRLLEGMLIVSQVHPETKENEIYPVWSG 180
 DB 121 EPLVHLTVRGMQEPAPAILSKAVEIEQTKRLLEGMLIVSQVHPETKENEIYPVWSG 180
 OY 181 LPSIQMADESRSLSAVYVNLHCLIRDSHKIDNYLKLKCRITIHNNC 227
 DB 181 LPSIQMADESRSLSAVYVNLHCLIRDSHKIDNYLKLKCRITIHNNC 227

RESULT 2

A61402

prolactin precursor, placental (clone 204) - human

C:Species: Homo sapiens (man)

C>Date: 09-Sep-1994 #sequence_revision 09-Sep-1994 #text_change 16-Feb-1997

C:Accession: A61402

R:Hitracka, Y.; Tatsun, K.; Shiozawa, M.; Aiso, S.; Fukasawa, T.; Yasuda, K.; Miyai, K.

Mol. Cell. Endocrinol. 75, 71-80, 1991

A:Title: A placenta-specific 5' non-coding exon of human prolactin.

A:Reference number: A61402; MUID:91267286

A:Accession: A61402

A:Status: preliminary: not compared with conceptual translation

A:Molecule type: mRNA

A:Residues: 1-228 <HTR>

C:Superfamily: prolactin

C:Keywords: alternative splicing

F:87-203, 220-228/Disulfide bonds: #status predicted

Query Match

Best Local Similarity 100.0%; Score 195; DB 2; Length 228;

Matches 195; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 33 PGCAACQVTLRDLFRAVYLSHYIHLSEMESEFDKRYTHGRGFTTKAINSCHTSLA 92
 DB 34 PGCAACQVTLRDLFRAVYLSHYIHLSEMESEFDKRYTHGRGFTTKAINSCHTSLA 93
 OY 93 TPEDKEAOQOMKDFLSLIVSLIRSNPEPLVHLTVRGMQEPAPAILSKAVEIEQTK 152
 DB 94 TPEDKEAOQOMKDFLSLIVSLIRSNPEPLVHLTVRGMQEPAPAILSKAVEIEQTK 153
 OY 153 RLEGMELIVSQVHPETKENEIYPVWSGLPSIQMADESRSLSAVYVNLHCLIRDSHKIDN 212
 DB 154 RLEGMELIVSQVHPETKENEIYPVWSGLPSIQMADESRSLSAVYVNLHCLIRDSHKIDN 213
 OY 213 YLKLKCRITIHNNC 227
 DB 214 YLKLKCRITIHNNC 228

RESULT 3

S15131

prolactin - Arabian camel

C:Species: Camelus dromedarius (Arabian camel)

C>Date: 19-Mar-1997 #sequence_revision 19-Mar-1997 #text_change 11-May-2000

C:Accession: S15131; A60513

R:Martinat, N.; Huet, J.C.; Nespolious, C.; Combarous, Y.; Pernollet, J.C.

Biochim. Biophys. Acta 1077, 339-345, 1991

A:Title: Determination of the primary and secondary structures of the dromedary (Camelus dromedarius) prolactin

A:Reference number: S15131; MUID:91230144

A:Accession: S15131

A:Status: preliminary

A:Molecule type: protein

A:Residues: 1-199 <MAR>

R:Martinat, N.; Anouassi, A.; Huet, J.C.; Pernollet, J.C.; Combarous, Y.

Comp. Biochem. Physiol. B 97, 667-674, 1990

A:Title: Purification and characterization of glycosylated and non-glycosylated forms of camel prolactin

A:Reference number: A60513; MUID:91199560

A:Accession: A60513

A:Molecule type: protein

A:Residues: 1-40 <MAZ>

C:Superfamily: prolactin

C:Keywords: anterior pituitary; hormone; lactation; placenta

Query Match

Best Local Similarity 11.5%; Score 26; DB 2; Length 199;

Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLIRDSHKIDNYLKLKCRIT 222
 DB 169 YNLHCLIRDSHKIDNYLKLKCRIT 194

RESULT 4

LCPG

prolactin precursor - pig

C:Species: Sus scrofa domestica (domestic pig)

C>Date: 24-Apr-1984 #sequence_revision 27-Jun-1994 #text_change 18-Jun-1999

C:Accession: S04077; A60971; A01507

R:Schulz-Aellen, M.F.; Schmidt, E.; Movva, R.N.

Nucleic Acids Res. 17, 3295, 1989

A:Title: Nucleotide sequence of porcine preprolactin cDNA.

A:Reference number: S04077; MUID:89263739

A:Accession: S04077

A:Molecule type: mRNA

A:Residues: 1-229 <SCH>

A:Cross-references: EMBL:X14068; NID:92082; PIDN:CAA32231.1; PID:92083

R:Kato, Y.; Hirai, T.; Kato, T.

J. Mol. Endocrinol. 4, 135-142, 1990

A:Title: Molecular cloning of cDNA for porcine prolactin precursor.

A:Reference number: A60971; MUID:90262633

A:Accession: A60971

A:Molecule type: mRNA

A:Residues: 1-3, 'R', '5', 'X', '7-42', 'V', '44-229 <KAT>

R:Li, C.H.

Int. J. Pept. Protein Res. 8, 205-224, 1976

A:Title: Studies on pituitary luteinizing hormone. The primary structure of the porcine luteinizing hormone

A:Reference number: A91770; MUID:6189476

A:Accession: A01507

A:Molecule type: protein

A:Residues: 31-42, 'V', '44-151', 'E', '153-225', 'N', '227-229 <LIC>

C:Superfamily: prolactin

C:Keywords: anterior pituitary; hormone; lactation; placenta

F:1-30/Domain: signal sequence #status predicted <SIG>

F:31-229/Product: prolactin #status experimental <MAT>

F:34-41, 86-204, 221-229/Disulfide bonds: #status experimental

Query Match

Best Local Similarity 11.5%; Score 26; DB 1; Length 229;

Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLKLKCR 222
 |||||||
 Db 199 YNLHCLRRDSHKIDNYLKLKCR 224

RESULT 5

S18882
 prolactin - American mink (fragment)
 C:Species: Mustela vison (American mink)
 C:Date: 06-Jan-1995 #sequence_revision 06-Jan-1995 #text_change 16-Jul-1999
 C:Accession: S18882
 R:Bondar, A.A.; Golovin, S.J.; Mertvetsov, N.P.
 submitted to the EMBL Data Library, November 1991
 A:Reference number: S18882
 A:Accession: S18882
 A:Status: preliminary
 A:Molecule type: mRNA
 A:Residues: 1-175 <DON>
 A:Cross-references: EMBL:X63235; NID:g1182; PIDN:CAA44910.1; PID:g1183
 C:Superfamily: prolactin

Query Match 11.0%; Score 25; DB 2; Length 175;
 Best Local Similarity 100.0%; Pred. No. 1.7e-17;
 Matches 25; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLKLKCR 221
 |||||||
 Db 145 YNLHCLRRDSHKIDNYLKLKCR 169

RESULT 6

LCHO
 prolactin - horse
 C:Species: Equus caballus (domestic horse)
 C:Date: 30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change 20-Aug-1994
 C:Accession: JK0016
 R:Lehrman, S.R.; Lahm, H.W.; Miedel, M.C.; Hulmes, J.D.; Li, C.H.
 Int. J. Pept. Protein Res. 31, 544-554, 1988
 A:Title: Primary structure of equine pituitary prolactin.
 A:Reference number: JK0016; MUID:88314465
 A:Accession: JK0016
 A:Molecule type: protein
 A:Residues: 1-199 <LEH>
 C:Superfamily: prolactin
 C:Keywords: anterior pituitary; hormone; lactation; placenta
 F:4-11,58-174,191-199/Disulfide bonds: #status predicted

Query Match 11.0%; Score 25; DB 1; Length 199;
 Best Local Similarity 100.0%; Pred. No. 1.9e-17;
 Matches 25; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLKLKCR 221
 |||||||
 Db 169 YNLHCLRRDSHKIDNYLKLKCR 193

RESULT 7

I51233
 prolactin - Japanese toad (fragment)
 C:Species: Bufo japonicus (Japanese toad)
 C:Date: 13-Sep-1996 #sequence_revision 13-Sep-1996 #text_change 16-Jul-1999
 C:Accession: I51233
 R:Takahashi, N.; Yamamoto, K.; Kikuyama, S.
 J. Mol. Endocrinol. 11, 343-349, 1993
 A:Title: Cloning of a toad prolactin cDNA: expression of prolactin mRNA in larval and ad
 A:Reference number: I51233; MUID:94197900
 A:Accession: I51233
 A:Status: preliminary; translated from GB/EMBL/DBJ
 A:Molecule type: mRNA
 A:Residues: 1-134 <TAK>

A:Cross-references: GB:S69309; NID:g546265; PIDN:AAB30425.1; PID:g546266
 C:Superfamily: prolactin

Query Match 10.6%; Score 24; DB 2; Length 134;
 Best Local Similarity 100.0%; Pred. No. 1.4e-16;
 Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLKLKCR 220
 |||||||
 Db 104 YNLHCLRRDSHKIDNYLKLKCR 127

RESULT 8

A60620
 prolactin - green sea turtle
 C:Species: Chelonia mydas (green sea turtle)
 C:Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 31-Dec-1993
 C:Accession: A60620
 R:Yasuda, A.; Kawachi, H.; Papkoff, H.
 Gen. Comp. Endocrinol. 80, 363-371, 1990
 A:Title: The complete amino acid sequence of prolactin from the sea turtle (Chelonia
 A:Reference number: A60620; MUID:91146884
 A:Accession: A60620
 A:Molecule type: protein
 A:Residues: 1-198 <YAS>
 A:Note: 55-Leu, 145-Val, 148-Arg, and 171-Met were also found
 C:Superfamily: prolactin
 C:Keywords: hormone; pituitary
 F:4-11,58-173,190-198/Disulfide bonds: #status experimental

Query Match 10.6%; Score 24; DB 1; Length 198;
 Best Local Similarity 100.0%; Pred. No. 2e-16;
 Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLKLKCR 220
 |||||||
 Db 168 YNLHCLRRDSHKIDNYLKLKCR 191

RESULT 9

A60969
 prolactin precursor - bullfrog (fragment)
 C:Species: Rana catesbeiana (bullfrog)
 C:Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 07-Apr-1994
 C:Accession: A60969; A61134
 R:Takahashi, N.; Yoshitama, K.; Kikuyama, S.; Yamamoto, K.; Kato, Y.
 J. Mol. Endocrinol. 5, 281-287, 1990
 A:Title: Molecular cloning and nucleotide sequence analysis of complementary DNA for
 A:Reference number: A60969; MUID:91144703
 A:Accession: A60969
 A:Status: not compared with conceptual translation
 A:Molecule type: mRNA
 A:Residues: 1-207 <TAK>
 R:Yasuda, A.; Yamaguchi, K.; Kobayashi, T.; Yamamoto, K.; Kikuyama, S.; Kawachi, H.
 Gen. Comp. Endocrinol. 83, 218-226, 1991
 A:Title: The complete amino acid sequence of prolactin from the bullfrog, Rana catesb
 A:Reference number: A61134; MUID:92009093
 A:Accession: A61134
 A:Molecule type: protein
 A:Residues: 10-122,124-207 <YAS>
 C:Superfamily: prolactin
 C:Keywords: anterior pituitary; hormone
 F:1-9/Domain: signal sequence (fragment) #status predicted <SIG>
 F:10-207/Product: prolactin #status predicted <MAT>
 F:13-20,67-182,199-207/Disulfide bonds: #status predicted

Query Match 10.6%; Score 24; DB 2; Length 207;
 Best Local Similarity 100.0%; Pred. No. 2e-16;
 Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 197 YNLHCLRRDSHKIDNYLKLKCR 220
 |||||
 Db 177 YNLHCLRRDSHKIDNYLKLKCR 200

RESULT 10

prolactin precursor - turkey
 A:Accession: A61133
 C:Species: Meleagris gallopavo (common turkey)
 C>Date: 10-Mar-1994 #sequence_revision 07-Apr-1994 #text_change 11-May-2000
 C:Accession: A61133; S10170; A61528
 R:Wong, E.A.; Ferrin, N.H.; Silsby, J.L.; El Halawani, M.E.
 Gen. Comp. Endocrinol. 83, 18-26, 1991
 A:Title: Cloning of a turkey prolactin cDNA: expression of prolactin mRNA throughout the
 A:Reference number: A61133; MUID:91348480
 A:Accession: A61133
 A:Molecule type: mRNA
 A:Residues: 1-155, R, 157-229 <MO2>
 A:Cross-references: GB:005952; NID:9454094; PIDN:ABB60604.1; PID:9454095
 R:Karatzas, C.N.; Zadworny, D.; Kuhnlein, U.
 Nucleic Acids Res. 18, 3071, 1990
 A:Title: Nucleotide sequence of turkey prolactin.
 A:Reference number: S10170; MUID:90272435
 A:Accession: S10170
 A:Molecule type: mRNA
 A:Residues: 21-229 <KAR>
 A:Cross-references: EMBL:X51769; NID:964095; PIDN:CAA36071.1; PID:964096
 R:Corcoran, D.H.; Proudman, J.A.
 Comp. Biochem. Physiol. B 99, 563-570, 1991
 A:Title: Isoforms of turkey prolactin: evidence for differences in glycosylation and in
 A:Reference number: A61528; MUID:92119931
 A:Accession: A61528
 A:Molecule type: protein
 A:Residues: 31-70 <COR>
 C:Superfamily: prolactin
 C:Keywords: hormone; pituitary
 F:1-30/Domain: signal sequence #status predicted <SIG>
 F:31-229/Product: prolactin #status predicted <MAT>
 F:34-41,88-204,221-229/Disulfide bonds: #status predicted

Query Match 8.4%; Score 19; DB 2; Length 229;
 Best Local Similarity 100.0%; Pred. No. 2.6e-11;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 197 YNLHCLRRDSHKIDNYLKL 215
 |||||
 Db 199 YNLHCLRRDSHKIDNYLKL 217

RESULT 11

prolactin precursor - chicken
 C:Species: Gallus gallus (chicken)
 C>Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 16-Jul-1999
 C:Accession: A60972; A32855
 R:Henks, M.C.; Alonzi, J.A.; Sharp, P.J.; Sang, H.M.
 J. Mol. Endocrinol. 2, 21-30, 1989
 A:Title: Molecular cloning and sequence analysis of putative chicken prolactin cDNA.
 A:Reference number: A60972; MUID:89351551
 A:Accession: A60972
 A:Status: not compared with conceptual translation
 A:Molecule type: mRNA
 A:Residues: 1-229 <HRN>
 R:Matshiki, M.; Tanaka, M.; Masuda, N.; Sugisaki, K.; Yamamoto, M.; Yamakawa, M.; Nagai, J.
 J. Biol. Chem. 264, 5535-5539, 1989
 A:Title: Primary structure of chicken pituitary prolactin deduced from the cDNA sequence
 A:Reference number: A32855; MUID:89174595
 A:Accession: A32855
 A:Molecule type: mRNA
 A:Residues: 1-170, 'H', 172-179, 'S', 181-204, 'H', 206-229 <MAT>
 A:Cross-references: GB:004614; NID:9212612; PIDN:AAA49040.1; PID:9212613
 C:Comment: The reason for differences between the two reports above is unclear. Prolactin

nce from turkey at each position in which the two references above disagree.
 C:Superfamily: prolactin
 F:1-30/Domain: signal sequence #status predicted <SIG>
 F:31-229/Product: prolactin #status predicted <MAT>
 F:34-41,88-204,221-229/Disulfide bonds: #status predicted

Query Match 8.4%; Score 19; DB 2; Length 229;
 Best Local Similarity 100.0%; Pred. No. 2.6e-11;
 Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 197 YNLHCLRRDSHKIDNYLKL 215
 |||||
 Db 199 YNLHCLRRDSHKIDNYLKL 217

RESULT 12

prolactin precursor - cat
 C:Species: Felis silvestris catus (domestic cat)
 C>Date: 10-Apr-1996 #sequence_revision 24-May-1996 #text_change 16-Jul-1999
 C:Accession: JC4631
 R:Warren, W.C.; Bentle, K.A.; Bogosian, G.
 Gene 168, 247-249, 1996
 A:Title: Cloning of the cDNAs coding for cat growth hormone and prolactin.
 A:Reference number: JC4631; MUID:96194906
 A:Accession: JC4631
 A:Molecule type: mRNA
 A:Residues: 1-229 <MAR>
 A:Cross-references: GB:025974; NID:9825770; PIDN:AAA67295.1; PID:9825771
 A:Experimental source: pituitary
 C:Genetics:
 A:Gene: prl
 C:Superfamily: prolactin
 C:Keywords: glycoprotein; pituitary
 F:1-30/Domain: signal sequence #status predicted <SIG>
 F:31-229/Product: prolactin #status predicted <MAT>
 F:61/Binding site: carbohydrate (Asn) (covalent) #status predicted

Query Match 7.5%; Score 17; DB 2; Length 229;
 Best Local Similarity 100.0%; Pred. No. 2.7e-09;
 Matches 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 75 GGGFTKAINSCHTSSL 91
 |||||
 Db 77 GGGFTKAINSCHTSSL 93

RESULT 13

prolactin - sei whale
 C:Species: Balaenoptera borealis (sei whale)
 C>Date: 07-May-1993 #sequence_revision 07-May-1993 #text_change 07-May-1999
 C:Accession: PN0128
 R:Karaseva, L.I.; Pankov, Y.A.
 Biokhimiia 50, 1528-1534, 1985
 A:Title: Primary structure of sei whale prolactin.
 A:Reference number: PN0128; MUID:86026530
 A:Accession: PN0128
 A:Molecule type: protein
 A:Residues: 1-199 <RAR>
 A:Note: article in Russian with English abstract
 C:Superfamily: prolactin
 C:Keywords: anterior pituitary; hormone; lactation; placenta
 F:4-11,58-174,191-199/Disulfide bonds: #status predicted

Query Match 7.0%; Score 16; DB 2; Length 199;
 Best Local Similarity 100.0%; Pred. No. 2.4e-08;
 Matches 16; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 122 PLVHLYEVKQDEAP 137

Db 94 PLYHLVTEVRGMDEAP 109

RESULT 14

LCRT

prolactin precursor - rat

C:Species: Rattus norvegicus (Norway rat)

C:Date: 31-Aug-1980 #sequence_revision 22-May-1981 #text_change 21-Jul-2000

C:Accession: A93279; A92288; A90419; A49199; I55216; S19295; A01506

R:Coake, N.E.; Baxter, J.D.

Nature 297, 603-606, 1982

A:Title: Structural analysis of the prolactin gene suggests a separate origin for its 5'

A:Reference number: A93279; MUID:8220023

A:Accession: A93279

A:Molecule type: DNA

A:Residues: 1-226 <CCO>

A:Cross-references: GB:J00764; NID:g206360; PIDN:AAA41936.1; PID:g206362

R:Gubbins, E.U.; Maurer, R.A.; Lagrimini, M.; Erwin, C.R.; Donelson, J.E.

J. Biol. Chem. 255, 8655-8662, 1980

A:Title: Structure of the rat prolactin gene.

A:Reference number: A92288; MUID:81006910

A:Accession: A92288

A:Molecule type: mRNA

A:Residues: 1-226 <GUB>

A:Cross-references: GB:J00769; NID:g206371; PIDN:AAA41939.1; PID:g206373

R:McKean, D.J.; Maurer, R.A.

Biochemistry 17, 5215-5219, 1978

A:Title: Complete amino acid sequence of the precursor region of rat prolactin.

A:Reference number: A90419; MUID:79082781

A:Accession: A90419

A:Molecule type: protein

A:Residues: 1-29 <MCK>

R:Shome, B.; Parlow, A.F.

unpublished results, cited by Shome, B., and Parlow, A.F., J. Clin. Endocrinol. Metab. 4

A:Reference number: A94486

A:Contents: annotation; sequence of the active hormone

A:Note: This sequence corresponds to the sequence above beginning at position 30 but dif

R:Wilson III, D.M.; Emanuele, N.V.; Jurgens, J.R.; Kelley, M.R.

Endocrinology 131, 2488-2490, 1992

A:Title: Prolactin message in brain and pituitary of adult male rats is identical: PCR c

A:Reference number: A49199; MUID:93048998

A:Accession: A49199

A:Molecule type: mRNA

A:Residues: 28-161, G', 163-221 <WIL>

A:Experimental source: hypothalamus

A:Note: sequence extracted from NCBI backbone (NCBIN:117014, NCBIPI:117015)

R:Coake, N.E.; Coit, D.C.; Weiner, R.I.; Baxter, J.D.; Martial, J.A.

J. Biol. Chem. 255, 6502-6510, 1980

A:Title: Structure of cloned DNA complementary to rat prolactin messenger RNA.

A:Reference number: I55216; MUID:80227789

A:Accession: I55216

A>Status: translated from GB/EMBL/DBJ

A:Molecule type: mRNA

A:Residues: 1-9, 11-161, G', 163-226 <RES>

A:Cross-references: GB:J00770; NID:g56540; PIDN:CAA24562.1; PID:g56541

R:Andries, M.; Tillemans, D.; Deneef, C.

Biochem. J. 281, 393-400, 1992

A:Title: Isolation of cleaved prolactin variants that stimulate DNA synthesis in speci

A:Reference number: S19295; MUID:92143803

A:Accession: S19295

A:Molecule type: protein

A:Residues: 30-49, 173-194 <AND>

C:Genetics:

A:Introns: 9/3; 67/3; 103/3; 163/3

C:Superfamily: prolactin

C:Keywords: anterior pituitary; hormone; lactation; placenta

F:1-29/Domain: signal sequence #status experimental <SIG>

F:30-226/Product: prolactin #status predicted <MAT>

F:33-38, 85-201, 218-226/Disulfide bonds: #status predicted

Best Local Similarity 100.0%; Pred. No. 2.9e-06; Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 88 TSSLATPEDKEQA 101

Db 87 TSSLATPEDKEQA 100

RESULT 15

LCMS

prolactin precursor - mouse

C:Species: Mus musculus (house mouse)

C:Date: 30-Sep-1987 #sequence_revision 17-May-1996 #text_change 28-May-1999

C:Accession: A43789; A23911

R:Harigaya, T.; Nakayama, K.; Okubo, H.; Nakanishi, S.; Seo, H.; Hoshino, K.

Biochim. Biophys. Acta 868, 30-38, 1986

A:Title: Cloning and sequence analysis of cDNA for mouse prolactin.

A:Reference number: A43789; MUID:87000617

A:Accession: A43789

A:Molecule type: mRNA

A:Residues: 1-228 <HAR>

A:Cross-references: GB:X04418

A:Note: It is uncertain whether Met-1 or Met-3 is the initiator

R:Linzer, D.I.H.; Talamantes, F.

J. Biol. Chem. 260, 9574-9579, 1985

A:Title: Nucleotide sequence of mouse prolactin and growth hormone mRNAs and expressi

A:Reference number: A92548; MUID:85261358

A:Accession: A23911

A:Molecule type: mRNA

A:Residues: 3-228 <LIN>

A:Cross-references: GB:X02892; GB:K03236; NID:g53777; PIDN:CAA26651.1; PID:g53778

C:Superfamily: prolactin

C:Keywords: anterior pituitary; hormone; lactation; placenta

F:1-31/Domain: signal sequence #status predicted <SIG>

F:32-228/Product: prolactin #status predicted <PLT>

Query Match 5.7%; Score 13; DB 1; Length 228;

Best Local Similarity 100.0%; Pred. No. 3e-05;

Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

Oy 88 TSSLATPEDKEQA 100

Db 89 TSSLATPEDKEQA 101

Search completed: April 25, 2002, 11:08:49

Job time: 108 sec

Query Match 6.2%; Score 14; DB 1; Length 226;

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GenCore version 4.5
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OM protein - protein search, using sw model

Run on: April 25, 2002, 11:06:26 ; Search time 12.73 Seconds
(without alignments)
401.276 Million cell updates/sec

Title: US-09-815-306-1

Perfect score: 227

Sequence: 1 MNKQSPWKGSLLLVSNL.....HKIDNYLKLCRIHNNNC 227

Scoring table: OLIGO
Gapop 60.0 , Gapext 60.0

Searched: 212252 seqs, 22503292 residues

Word size : 0

Total number of hits satisfying chosen parameters: 212252

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Listing first 45 summaries

Database : Issued_Patents_AA:*
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3: /cgn2_6/prodata/2/1aa/5a_COMB.pep:*
4: /cgn2_6/prodata/2/1aa/5a_COMB.pep:*
5: /cgn2_6/prodata/2/1aa/PCTUS_COMB.pep:*
6: /cgn2_6/prodata/2/1aa/backfiles1.pep:*

SUMMARIES

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Result No.	Score	Query Match	Length	DB	ID	Description
1	199	87.7	199	3	US-08-737-248-7	Sequence 7, Appli
2	199	87.7	351	1	US-08-196-350-1	Sequence 1, Appli
3	68	30.0	125	3	US-08-985-526-25	Sequence 25, Appli
4	68	30.0	253	3	US-08-985-526-27	Sequence 27, Appli
5	26	11.5	199	3	US-08-737-248-10	Sequence 10, Appli
6	26	11.5	199	3	US-08-737-248-12	Sequence 12, Appli
7	26	11.5	199	3	US-08-737-248-14	Sequence 14, Appli
8	25	11.0	199	3	US-08-737-248-8	Sequence 8, Appli
9	24	10.6	197	3	US-08-737-248-17	Sequence 17, Appli
10	24	10.6	198	3	US-08-737-248-6	Sequence 6, Appli
11	19	8.4	199	3	US-08-737-248-2	Sequence 2, Appli
12	19	8.4	426	3	US-08-737-248-4	Sequence 4, Appli
13	14	6.2	197	3	US-08-737-248-15	Sequence 15, Appli
14	14	5.7	197	3	US-08-737-248-16	Sequence 16, Appli
15	12	5.3	199	3	US-08-737-248-5	Sequence 5, Appli
16	12	5.3	199	3	US-08-737-248-11	Sequence 11, Appli
17	12	5.3	199	3	US-08-737-248-13	Sequence 13, Appli
18	10	4.4	188	3	US-08-737-248-20	Sequence 20, Appli
19	10	4.4	199	3	US-08-737-248-9	Sequence 9, Appli
20	8	3.5	8	2	US-08-669-2848-28	Sequence 28, Appli
21	8	3.5	8	2	US-08-190-964-13	Sequence 13, Appli
22	8	3.5	39	4	US-08-742-440A-13	Sequence 13, Appli
23	8	3.5	42	3	US-09-053-866-5	Sequence 5, Appli
24	8	3.5	177	3	US-08-737-248-21	Sequence 21, Appli
25	8	3.5	187	3	US-08-737-248-18	Sequence 18, Appli
26	8	3.5	187	3	US-08-737-248-19	Sequence 19, Appli
27	7	3.1	30	4	US-09-348-578-5	Sequence 5, Appli

28	7	3.1	31	4	US-09-348-578-14	Sequence 14, Appli
29	7	3.1	32	4	US-09-348-578-23	Sequence 23, Appli
30	7	3.1	207	1	US-07-656-566-2	Sequence 2, Appli
31	7	3.1	231	1	US-07-656-566-3	Sequence 3, Appli
32	7	3.1	301	1	US-08-393-985-12	Sequence 12, Appli
33	7	3.1	347	1	US-08-118-270-47	Sequence 47, Appli
34	7	3.1	347	5	PCT-US93-08528-47	Sequence 47, Appli
35	7	3.1	369	2	US-08-951-148-8	Sequence 8, Appli
36	7	3.1	369	2	US-08-165-234-8	Sequence 8, Appli
37	7	3.1	369	2	US-09-274-570-8	Sequence 8, Appli
38	7	3.1	416	3	US-08-858-876A-4	Sequence 4, Appli
39	7	3.1	416	4	US-09-472-860-4	Sequence 4, Appli
40	7	3.1	480	2	US-08-828-488-8	Sequence 8, Appli
41	7	3.1	884	2	US-08-465-976A-2	Sequence 2, Appli
42	7	3.1	884	2	US-08-982-412-2	Sequence 2, Appli
43	7	3.1	1353	3	US-08-894-173-2	Sequence 2, Appli
44	7	3.1	1353	4	US-09-398-193-2	Sequence 2, Appli
45	6	2.6	8	3	US-08-925-002-45	Sequence 45, Appli

ALIGNMENTS

RESULT 1:
US-08-737-248-7
Sequence 7, Application US/08737248
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: Zadworny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
TITLE OF INVENTION: TREATING BIRD BROODINESS
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
ADDRESSEE: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-APR-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8383
TELEFAX: 215-875-8394
INFORMATION FOR SEQ ID NO: 7:
SEQUENCE CHARACTERISTICS:
LENGTH: 199 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-737-248-7

Query Match 87.7%; Score 199; DB 3; Length 199;
Best Local Similarity 100.0%; Pred. No. 1.2e-166;
Matches 199; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 29 LPICPGCAACQVTLRDLFDRAVLSHYIHNLSSEMFSEFDKRYTHGRGFTTKAINSCHT 88
DB 1 LPICPGCAACQVTLRDLFDRAVLSHYIHNLSSEMFSEFDKRYTHGRGFTTKAINSCHT 60

QY 89 SSLATPEDEKQAOQNOQKDFSLIVSLRSWNEPLYHLVTEVRGQEAPEALISRAVEIE 148
DB 61 SSLATPEDEKQAOQNOQKDFSLIVSLRSWNEPLYHLVTEVRGQEAPEALISRAVEIE 120

QY 149 EOTKRLLEGMEILVSOVHPETKENETIYPWSGPLSQMADEESRLSAYYNLHCLRDSH 208
DB 121 EOTKRLLEGMEILVSOVHPETKENETIYPWSGPLSQMADEESRLSAYYNLHCLRDSH 180

QY 209 KIDNYLKLKCRILHNNC 227
DB 181 KIDNYLKLKCRILHNNC 199

RESULT 2
US-08-196-350-1
; Sequence 1, Application US/08196350
; Patent No. 5583099
; GENERAL INFORMATION:
; APPLICANT: Richards, Sue
; APPLICANT: Kaplan, Joanne
; APPLICANT: Mosicki, Richard
; TITLE OF INVENTION: PROLACTIN AS ADJUVANT
; NUMBER OF SEQUENCES: 2
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Brad Salcedo
; STREET: One Kendall Square
; CITY: Cambridge
; STATE: MA
; COUNTRY: U.S.A.
; ZIP: 02139
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/196.350
; FILING DATE:
; CLASSIFICATION: 424
; ATTORNEY/AGENT INFORMATION:
; NAME: Goetz, William G
; REGISTRATION NUMBER: 27,787
; REFERENCE/DOCKET NUMBER: GEN 4-1.0
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: 6172527868
; TELEFAX: 6173747225
; INFORMATION FOR SEQ ID NO: 1:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 351 amino acids
; TYPE: amino acid
; STRANDEDNESS: single
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ANTI-SENSE: NO
; FRAGMENT TYPE: N-terminal
; ORIGINAL SOURCE:
; ORGANISM: human prolactin
; US-08-196-350-1

Query Match 87.7%; Score 199; DB 1; Length 351;
Best Local Similarity 100.0%; Pred. No. 2e-186;
Matches 199; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 29 LPICPGCAACQVTLRDLFDRAVLSHYIHNLSSEMFSEFDKRYTHGRGFTTKAINSCHT 88

DB 153 LPICPGCAACQVTLRDLFDRAVLSHYIHNLSSEMFSEFDKRYTHGRGFTTKAINSCHT 212

QY 89 SSLATPEDEKQAOQNOQKDFSLIVSLRSWNEPLYHLVTEVRGQEAPEALISRAVEIE 148
DB 213 SSLATPEDEKQAOQNOQKDFSLIVSLRSWNEPLYHLVTEVRGQEAPEALISRAVEIE 272

QY 149 EOTKRLLEGMEILVSOVHPETKENETIYPWSGPLSQMADEESRLSAYYNLHCLRDSH 208
DB 273 EOTKRLLEGMEILVSOVHPETKENETIYPWSGPLSQMADEESRLSAYYNLHCLRDSH 332

QY 209 KIDNYLKLKCRILHNNC 227
DB 333 KIDNYLKLKCRILHNNC 351

RESULT 3
US-08-985-526-25
; Sequence 25, Application US/08985526
; Patent No. 6080728
; GENERAL INFORMATION:
; APPLICANT: Maxson, James A
; TITLE OF INVENTION: CARRIER DNA COMPLEXES CONTAINING DNA
; TITLE OF INVENTION: ENCODING ANTI-ANGIOGENIC PEPTIDES AND THEIR USE IN GENE
; TITLE OF INVENTION: THERAPY
; NUMBER OF SEQUENCES: 43
; CORRESPONDENCE ADDRESS:
; ADDRESSEE: Connolly, Bove, Lodge, & Hutz
; STREET: 1220 Market Street, P.O. Box 2207
; CITY: Wilmington
; STATE: Delaware
; COUNTRY: U.S.A.
; ZIP: 19899
; COMPUTER READABLE FORM:
; MEDIUM TYPE: Floppy disk
; COMPUTER: IBM PC compatible
; OPERATING SYSTEM: PC-DOS/MS-DOS
; SOFTWARE: Patentin Release #1.0, Version #1.25
; CURRENT APPLICATION DATA:
; APPLICATION NUMBER: US/08/985.526
; FILING DATE:
; CLASSIFICATION:
; PRIOR APPLICATION DATA:
; APPLICATION NUMBER: US 08/608,845
; FILING DATE: 16-JUL-1996
; ATTORNEY/AGENT INFORMATION:
; NAME: McMorrow Jr., Robert G
; TELECOMMUNICATION INFORMATION:
; TELEPHONE: (302) 658-9141
; TELEFAX: (302) 658-5613
; INFORMATION FOR SEQ ID NO: 25:
; SEQUENCE CHARACTERISTICS:
; LENGTH: 125 amino acids
; TYPE: amino acid
; TOPOLOGY: linear
; US-08-985-526-25

Query Match 30.0%; Score 68; DB 3; Length 125;
Best Local Similarity 100.0%; Pred. No. 5.6e-59;
Matches 68; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 70 KRYTHGRGFTTKAINSCHTSLATPEDEKQAOQNOQKDFSLIVSLRSWNEPLYHLVTE 129
DB 43 KRYTHGRGFTTKAINSCHTSLATPEDEKQAOQNOQKDFSLIVSLRSWNEPLYHLVTE 102

QY 130 VRGQEAAP 137
DB 103 VRGQEAAP 110

RESULT 4
US-08-985-526-27

Sequence 27, Application US/08985526
Patent No. 6080728
GENERAL INFORMATION:
APPLICANT: Mixson, James A
TITLE OF INVENTION: CARRIER-DNA COMPLEXES CONTAINING DNA
TITLE OF INVENTION: ENCODING ANTI-ANGIOGENIC PEPTIDES AND THEIR USE IN GENE
TITLE OF INVENTION: THERAPY
NUMBER OF SEQUENCES: 43
CORRESPONDENCE ADDRESSES:
ADDRESSEE: Connolly, Bove, Lodge, & Hutz
STREET: 1220 Market Street, P.O. Box 2207
CITY: Wilmington
STATE: Delaware
COUNTRY: U.S.A.
ZIP: 19899
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/985,526
FILING DATE:
CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/608,845
FILING DATE: 16-JUL-1996
ATTORNEY/AGENT INFORMATION:
NAME: McMorrow Jr., Robert G
TELECOMMUNICATION INFORMATION:
TELEPHONE: (302) 658-9141
TELEFAX: (302) 658-5613
INFORMATION FOR SEQ ID NO: 27:
SEQUENCE CHARACTERISTICS:
LENGTH: 253 amino acids
TYPE: amino acid
TOPOLOGY: linear
US-08-985-526-27

Query Match 30.0%; Score 68; DB 3; Length 253;
Best Local Similarity 100.0%; Pred. No. 1,1e-58;
Matches 68; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 70 KRYTHGKFTKAI NSCHTSLSATPEDEKQAOQNMKDFLSIYSILRSWNEPLYHLVTE 129
DB 43 KRYTHGKFTKAI NSCHTSLSATPEDEKQAOQNMKDFLSIYSILRSWNEPLYHLVTE 102

QY 130 VRGMOEAP 137
DB 103 VRGMOEAP 110

RESULT 5
US-08-737-248-10
Sequence 10, Application US/08737248
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: Zadzorny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
TITLE OF INVENTION: TREATING BIRD BROODINESS
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESSES:
ADDRESSEE: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk

COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-APR-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 989.6411P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8394
TELEFAX: 215-875-8383
INFORMATION FOR SEQ ID NO: 10:
SEQUENCE CHARACTERISTICS:
LENGTH: 199 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-737-248-10

Query Match 11.5%; Score 26; DB 3; Length 199;
Best Local Similarity 100.0%; Pred. No. 8,6e-18;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 197 YNLHCLRDHSHKIDNYLKLCRII 222
DB 169 YNLHCLRDHSHKIDNYLKLCRII 194

RESULT 6
US-08-737-248-12
Sequence 12, Application US/08737248
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: Zadzorny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
TITLE OF INVENTION: TREATING BIRD BROODINESS
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESSES:
ADDRESSEE: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-APR-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:

NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 989.6411P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8383
TELEFAX: 215-875-8394
INFORMATION FOR SEQ ID NO: 12:
SEQUENCE CHARACTERISTICS:
LENGTH: 199 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-737-248-12

Query Match 11.5%; Score 26; DB 3; Length 199;
Best Local Similarity 100.0%; Pred. No. 8.6e-18;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNHLCLRDHSKIDNYLKLKCR11 222
|||||
DB 169 YNHLCLRDHSKIDNYLKLKCR11 194

RESULT 7
US-08-737-248-14
Sequence 14, Application US/08737248
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: Zadworny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
TREATING BIRD BROODINESS
NUMBER OF SEQUENCES: 23
CURRENT APPLICATION DATA:
CORRESPONDENCE ADDRESS:
ADDRESSEE: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-APR-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 989.6411P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8383
TELEFAX: 215-875-8394
INFORMATION FOR SEQ ID NO: 14:
SEQUENCE CHARACTERISTICS:
LENGTH: 199 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-737-248-14

Query Match 11.5%; Score 26; DB 3; Length 199;
Best Local Similarity 100.0%; Pred. No. 8.6e-18;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNHLCLRDHSKIDNYLKLKCR11 222
|||||
DB 169 YNHLCLRDHSKIDNYLKLKCR11 194

RESULT 8
US-08-737-248-8
Sequence 8, Application US/08737248
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: Zadworny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
TREATING BIRD BROODINESS
NUMBER OF SEQUENCES: 23
CURRENT APPLICATION DATA:
CORRESPONDENCE ADDRESS:
ADDRESSEE: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patent In Release #1.0, Version #1.30
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-APR-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 989.6411P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8383
TELEFAX: 215-875-8394
INFORMATION FOR SEQ ID NO: 8:
SEQUENCE CHARACTERISTICS:
LENGTH: 199 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-737-248-8

Query Match 11.0%; Score 25; DB 3; Length 199;
Best Local Similarity 100.0%; Pred. No. 8.1e-17;
Matches 25; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNHLCLRDHSKIDNYLKLKCR11 221
|||||
DB 169 YNHLCLRDHSKIDNYLKLKCR11 193

RESULT 9
US-08-737-248-17
Sequence 17, Application US/08737248

```
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: Zadworny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
ADDRESS: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-Apr-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-May-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-May-1994
ATTORNEY/AGENT INFORMATION:
NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 989, 6411P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8383
TELEFAX: 215-875-8394
INFORMATION FOR SEQ. ID NO: 17:
SEQUENCE CHARACTERISTICS:
LENGTH: 197 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-737-248-17

Query Match          10.6%  Score 24:  DB 3:  Length 197:
Best Local Similarity 100.0%:  Pred. No. 7.6e-16:
Matches 24:  Conservative 0:  Mismatches 0:  Indels 0:  Gaps 0:

OY  197 YNLHCLRDSHKIDNYLKLCR 220
    |||||||
DB  167 YNLHCLRDSHKIDNYLKLCR 190

RESULT 10
US-08-737-248-6
Sequence 6, Application US/08737248
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: Zadworny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
ADDRESS: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA
COUNTRY: USA
```

```
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-Apr-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-May-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-May-1994
ATTORNEY/AGENT INFORMATION:
NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 989, 6411P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8383
TELEFAX: 215-875-8394
INFORMATION FOR SEQ. ID NO: 6:
SEQUENCE CHARACTERISTICS:
LENGTH: 198 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-737-248-6

Query Match          10.6%  Score 24:  DB 3:  Length 198:
Best Local Similarity 100.0%:  Pred. No. 7.6e-16:
Matches 24:  Conservative 0:  Mismatches 0:  Indels 0:  Gaps 0:

OY  197 YNLHCLRDSHKIDNYLKLCR 220
    |||||||
DB  168 YNLHCLRDSHKIDNYLKLCR 191

RESULT 11
US-08-737-248-2
Sequence 2, Application US/08737248
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: Zadworny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
ADDRESS: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-Apr-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-May-1995
PRIOR APPLICATION DATA:
```

APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 989,6411P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8383
TELEFAX: 215-875-8394
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 199 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-737-248-2

Query Match 8.4%; Score 19; DB 3; Length 199;
Best Local Similarity 100.0%; Pred. No. 5.8e-11;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLK 215
DB 169 YNLHCLRRDSHKIDNYLK 187

RESULT 12
US-08-737-248-4
Sequence 4, Application US/08737248
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: Zadworny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
TREATING BIRD BROODINESS
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
ADDRESSEE: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentln Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-APR-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 989,6411P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8383
TELEFAX: 215-875-8394
INFORMATION FOR SEQ ID NO: 4:
SEQUENCE CHARACTERISTICS:
LENGTH: 426 amino acids
TYPE: amino acid
TOPOLOGY: linear
MOLECULE TYPE: protein

US-08-737-248-4

Query Match 8.4%; Score 19; DB 3; Length 426;
Best Local Similarity 100.0%; Pred. No. 1.2e-10;
Matches 19; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLK 215
DB 396 YNLHCLRRDSHKIDNYLK 414

RESULT 13
US-08-737-248-15
Sequence 15, Application US/08737248
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: Zadworny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
TREATING BIRD BROODINESS
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
ADDRESSEE: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentln Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-APR-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 989,6411P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8383
TELEFAX: 215-875-8394
INFORMATION FOR SEQ ID NO: 15:
SEQUENCE CHARACTERISTICS:
LENGTH: 197 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-737-248-15

Query Match 6.2%; Score 14; DB 3; Length 197;
Best Local Similarity 100.0%; Pred. No. 4.4e-06;
Matches 14; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 88 TSSLATPEDEKEQAO 101
DB 58 TSSLATPEDEKEQAO 71

RESULT 14
US-08-737-248-16

Sequence 16, Application US/08737248
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: zadworny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
TREATING BIRD BROODINESS
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
ADDRESSEE: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA
COUNTRY: USA
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-APR-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 989,6411P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8383
TELEFAX: 215-875-8394
INFORMATION FOR SEQ ID NO: 16:
SEQUENCE CHARACTERISTICS:
LENGTH: 197 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-737-248-16

Query Match 5.7%; Score 13; DB 3; Length 197;
Best Local Similarity 100.0%; Pred. No. 4.1e-05;
Matches 13; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 88 TSSLATPEDEKEQA 100
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DB 58 TSSLATPEDEKEQA 70

RESULT 15
US-08-737-248-5
Sequence 5, Application US/08737248
Patent No. 6114305
GENERAL INFORMATION:
APPLICANT: Guemene, Daniel
APPLICANT: zadworny, David
APPLICANT: Karatzas, Costas
TITLE OF INVENTION: USE OF PROLACTIN FOR PREVENTING AND/OR
TREATING BIRD BROODINESS
NUMBER OF SEQUENCES: 23
CORRESPONDENCE ADDRESS:
ADDRESSEE: WEISER & ASSOCIATES
STREET: 230 South Fifteenth Street, Suite 500
CITY: Philadelphia
STATE: PA

COUNTRY: USA
ZIP: 19102
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,248
FILING DATE: 28-APR-1997
CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: PCT/FR95/00576
FILING DATE: 03-MAY-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: FR 94/05550
FILING DATE: 05-MAY-1994
ATTORNEY/AGENT INFORMATION:
NAME: Weiser, Gerard J.
REGISTRATION NUMBER: 19,763
REFERENCE/DOCKET NUMBER: 989,6411P
TELECOMMUNICATION INFORMATION:
TELEPHONE: 215-875-8383
TELEFAX: 215-875-8394
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 199 amino acids
TYPE: amino acid
STRANDEDNESS:
TOPOLOGY: linear
MOLECULE TYPE: protein
US-08-737-248-5

Query Match 5.3%; Score 12; DB 3; Length 199;
Best Local Similarity 100.0%; Pred. No. 0.0004;
Matches 12; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 204 RDSHKIDNYLK 215
|||
DB 176 RDSHKIDNYLK 187

Search completed: April 25, 2002, 11:08:25
Job time: 119 sec

Best Available Copy

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OM protein - protein search, using sw model

Run on: April 25, 2002, 11:06:11 ; Search time 23.3 Seconds

(without alignments)
721.658 Million cell updates/sec

Title: US-09-815-306-1

Perfect score: 227
Sequence: 1 MNKGGSPMKGSLLLLVSNL.....HKIDVYLKLLCKRIHNNNC 227

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Gapop 60.0 , Gapext 60.0

Searched: 522463 seqs, 74073290 residues

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Total number of hits satisfying chosen parameters: 522463

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Listing first 45 summaries

Database :

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2: /SID58/gcgdata/geneseq/geneseq/AA1981.DAT:*

3: /SID58/gcgdata/geneseq/geneseq/AA1982.DAT:*

4: /SID58/gcgdata/geneseq/geneseq/AA1983.DAT:*

5: /SID58/gcgdata/geneseq/geneseq/AA1984.DAT:*

6: /SID58/gcgdata/geneseq/geneseq/AA1985.DAT:*

7: /SID58/gcgdata/geneseq/geneseq/AA1986.DAT:*

8: /SID58/gcgdata/geneseq/geneseq/AA1987.DAT:*

9: /SID58/gcgdata/geneseq/geneseq/AA1988.DAT:*

10: /SID58/gcgdata/geneseq/geneseq/AA1989.DAT:*

11: /SID58/gcgdata/geneseq/geneseq/AA1990.DAT:*

12: /SID58/gcgdata/geneseq/geneseq/AA1991.DAT:*

13: /SID58/gcgdata/geneseq/geneseq/AA1992.DAT:*

14: /SID58/gcgdata/geneseq/geneseq/AA1993.DAT:*

15: /SID58/gcgdata/geneseq/geneseq/AA1994.DAT:*

16: /SID58/gcgdata/geneseq/geneseq/AA1995.DAT:*

17: /SID58/gcgdata/geneseq/geneseq/AA1996.DAT:*

18: /SID58/gcgdata/geneseq/geneseq/AA1997.DAT:*

19: /SID58/gcgdata/geneseq/geneseq/AA1998.DAT:*

20: /SID58/gcgdata/geneseq/geneseq/AA1999.DAT:*

21: /SID58/gcgdata/geneseq/geneseq/AA2000.DAT:*

22: /SID58/gcgdata/geneseq/geneseq/AA2001.DAT:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	227	100.0	227	11	AA05231
2	206	90.7	228	18	AAW23620
3	206	90.7	228	18	AAW23626
4	199	87.7	199	20	AAV11764
5	199	87.7	200	20	AAW22558
6	199	87.7	351	16	AAW78691
7	185	81.5	359	11	AAW05805
8	124	54.6	125	19	AAW40299
9	124	54.6	227	9	AAW82079
10	124	54.6	252	19	AAW40300
11	103	45.4	199	18	AAW23629

12	101	44.5	199	21	AAV78428	Human prolactin am
13	81	35.7	140	20	AAW2260	Human anti-angio
14	81	35.7	143	20	AAW2261	Human anti-angio
15	68	30.0	125	20	AAV06194	Anti-angiogenic pr
16	68	30.0	253	20	AAV06195	Anti-angiogenic pr
17	65	28.6	124	20	AAW22559	Human anti-angio
18	20	8.8	20	18	AAW23639	Human prolactin pe
19	19	8.4	199	16	AAW87090	Turkey prolactin
20	20	8.4	426	16	AAW87091	Turkey prolactin/G
21	16	7.0	20	13	AAW27052	N-terminal prolact
22	14	6.2	19	18	AAW23640	Human prolactin pe
23	14	6.2	193	18	AAW23619	Prolactin antagoni
24	14	6.2	225	9	AAW82078	Recombinant rat pr
25	14	6.2	226	12	AAW14599	Rat prolactin. Ra
26	13	5.7	226	12	AAW13757	Prolactin. Mus mu
27	12	5.3	13	7	AAW60742	Sequence from synt
28	12	5.3	184	8	AAW70504	Cattle recombinant
29	12	5.3	229	11	AAW05699	Preprolactin from
30	11	4.8	11	18	AAW26643	Human prolactin pe
31	11	4.8	12	6	AAW50474	Determinant site o
32	10	4.4	10	18	AAW26644	Human prolactin C-
33	10	4.4	10	18	AAW26644	Immunomodulatory p
34	10	4.4	38	18	AAW45040	Immunomodulatory p
35	10	4.4	38	18	AAW45043	Immunomodulatory p
36	10	4.4	38	20	AAW09490	Immunoreactive pep
37	10	4.4	38	20	AAW09487	Immunoreactive pep
38	10	4.4	212	11	AAW06893	Tilapia prolactin
39	10	4.4	212	11	AAW08121	Modified tilapia p
40	9	4.0	18	18	AAW23642	Human prolactin pe
41	9	4.0	9	22	AAW80873	Growth hormone pep
42	9	4.0	10	6	AAW50475	Determinant site o
43	9	4.0	20	18	AAW23641	Human prolactin pe
44	8	3.5	8	18	AAW26645	Human prolactin pe
45	8	3.5	8	22	AAW03791	P21-activated prot

ALIGNMENTS

RESULT	1
AAW05231	
ID	AAW05231 standard; protein: 227 AA.
XX	
AC	AAW05231;
XX	
DT	03-AUG-1990 (first entry)
XX	
DE	AA sequence of human prolactin (HP) as encoded by recombinant DNA.
XX	
KW	Human prolactin (HP); plasmid pRP100; plasmid pDR720;
KW	plasmid pRP100.
XX	
OS	Homo sapiens.
XX	
PN	JP02000445-A.
XX	
PD	05-JAN-1990.
XX	
PF	25-DEC-1987; 87JP-0331244.
XX	
PR	25-DEC-1987; 87JP-0331244, JP-315317.
XX	
PA	(SHIK-) SHIKISHIMA BOSEKI K.
XX	
DR	WPI: 1990-047987/07.
DR	N-PSDB: AAQ93293.
XX	
PT	Human prolactin producing recombinant DNA -
PT	in which promoter, Shine-Dalgarno sequence and translation
XX	initiation codon are integrated
PS	Disclosure; Fig 1; 15pp; Japanese.

CC Also new are bacteria (E. coli) expressing it which contain its encoding
 CC DNA, and the prodn. of it by their culture. Large amts. of it can be
 CC produced recombinantly.
 XX
 XX Sequence . 227 AA:

Query Match 100.0%; Score 227; DB 11; Length 227;
 Best Local Similarity 100.0%; Pred. No. 6,7e-210;
 Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNKSPWKSGILLIVSNLLCSVAPLPICPGGAACQVTLRDLPRAVVLSHYIHL 60
 DB 1 mnikspwksgillivsnllcsgvaplpicpggaacqvcltrdlpravvlsyihnl 60
 QY 61 SSEMFSEFDKRYTHGRGFTITKAINSCHTSSLATPEDEKQAOQMNKDFLSILRSWN 120
 DB 61 ssemfsefdkrythgrgftitkainschtsstlatpedkeqagmqnkdflsilrsw 120
 QY 121 EPLYHLVTEVRGMQAPPAITLSKAVEIEEQTKRLLEGMEILIVSOVHPETKENEIYPWWSG 180
 DB 121 eplyhlvtevrqmgapeaailskaveieeqtkrllegmelivsqvhpckeneiypwsg 180
 QY 181 LPSLOMADEESRLSAVYNLLHCLRPDSKHIDVYKLKLCRIIHNNC 227
 DB 181 lpslqmadeesrlsavyllhcltrdshkldvylklkcriihnnnc 227

RESULT 2

AAW23620
 ID AAW23620 standard; Protein: 228 AA.

AC AAW23620;
 DT 11-FEB-1998 (first entry)

DE Prolactin antagonist (substituted human prolactin).

KW Prolactin antagonist; phosphorylation; hyperprolactinaemia;
 KW prolactinoma; prostate cancer; tumour; T-lymphoma; infertility;
 OS lactation; miscarriage; ovulation; antibody; therapy; human.

OS Homo sapiens.
 OS Synthetic.

XX Key Location/Qualifiers

FT MISC-difference 43 /note= "encoded by ASS"
 FT MISC-difference 63 /note= "encoded by TGA"
 FT MISC-difference 74 /note= "encoded by ASS"
 FT MISC-difference 94 /note= "encoded by ASS"
 FT MISC-difference 152 /note= "encoded by ASS"
 FT MISC-difference 170 /note= "encoded by ASS"
 FT MISC-difference 208 /note= "encoded by ASS"
 FT /label= Asp, Glu, Asn, Tyr, Gln, Ala, Trp, His

PN W09727865-A1.

XX 07-AUG-1997.

XX 30-JAN-1997; 97WO-US01435.

XX 31-JAN-1996; 96US-0594809.

XX (REGC) UNIV CALIFORNIA.

XX Walker AM;

XX

DR WPI: 1997-402308/37.
 DR N-PSDB; AAT74333.

PT Substituted prolactin peptide(s) and proteins having an amino acid
 PT substitution for serine in the C-terminal - useful as prolactin
 PT antagonists, e.g. for treating prolactin dependent cancers

PS Example 13; Fig 18; 158pp; English.

CC This protein comprises human prolactin, substituted at residue 208
 CC (Ser-179 in the native sequence). It can be expressed in bacterial
 CC or eukaryotic host cells using a claimed cDNA sequence (see
 CC AAT74333). Claimed prolactin antagonists (see AAW23608-18) comprise
 CC prolactin substitution mutant proteins and C-terminal peptides in
 CC which the serine residue at position 179 (human) or 177 (rat) is
 CC substituted by another amino acid. They can be used for the
 CC treatment of prolactin dependent cancers and can inhibit T-lymphoma
 CC cell proliferation. They are also useful for treatment of
 CC prolactinoma, infertility related to abnormal prolactin regulation,
 CC some forms of prostatic cancer, miscarriage and ovulation
 CC irregularities, as well as in assays to measure levels of non-
 CC phosphorylated and phosphorylated prolactin as an indicator of
 CC reproductive pathologies and presence or status of a prolactin-
 CC dependent tumour, and to raise polyclonal and monoclonal antibodies.

XX Sequence 228 AA;

Query Match 90.7%; Score 206; DB 18; Length 228;
 Best Local Similarity 100.0%; Pred. No. 9,7e-190;
 Matches 206; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNKSPWKSGILLIVSNLLCSVAPLPICPGGAACQVTLRDLPRAVVLSHYIHL 60
 DB 2 mnikspwksgillivsnllcsgvaplpicpggaacqvcltrdlpravvlsyihnl 61
 QY 61 SSEMFSEFDKRYTHGRGFTITKAINSCHTSSLATPEDEKQAOQMNKDFLSILRSWN 120
 DB 62 ssemfsefdkrythgrgftitkainschtsstlatpedkeqagmqnkdflsilrsw 121
 QY 121 EPLYHLVTEVRGMQAPPAITLSKAVEIEEQTKRLLEGMEILIVSOVHPETKENEIYPWWSG 180
 DB 122 eplyhlvtevrqmgapeaailskaveieeqtkrllegmelivsqvhpckeneiypwsg 181
 QY 181 LPSLOMADEESRLSAVYNLLHCLRPD 206
 DB 182 lpslqmadeesrlsavyllhcltrd 207

RESULT 3

AAW23626
 ID AAW23626 standard; Protein: 228 AA.

AC AAW23626;

DT 11-FEB-1998 (first entry)

DE Prolactin antagonist (substituted human prolactin).

KW Prolactin antagonist; phosphorylation; hyperprolactinaemia;
 KW prolactinoma; prostate cancer; tumour; T-lymphoma; infertility;
 OS lactation; miscarriage; ovulation; antibody; therapy; human.

OS Homo sapiens.
 OS Synthetic.

XX Key Location/Qualifiers

FT MISC-difference 208 /note= "variable site"

PN W09727865-A1.

XX 07-AUG-1997.

XX

XX 30-JAN-1997; 97WO-US01435.
 XX
 XX 31-JAN-1996; 96US-0594809.
 XX
 PA (REGC) UNIV CALIFORNIA.
 XX
 PI Walker AM;
 DR WPI; 1997-402308/37.
 XX
 PT Substituted prolactin peptide(s) and proteins having an amino acid
 PT substitution for serine in the C-terminal - useful as prolactin
 PT antagonists, e.g. for treating prolactin dependent cancers
 XX
 PS Example 9; Page 102; 158pp; English.
 XX
 CC This protein comprises human prolactin, substituted at residue 208
 CC (Ser-179 in the native sequence). It has prolactin antagonist
 CC activity, antagonising the stimulation of T lymphoma cell growth in
 CC the presence of non-phosphorylated prolactin. Claimed prolactin
 CC antagonists (see AAW23607-18) comprise prolactin substitution mutant
 CC proteins and C-terminal peptides. The Antagonists can be used for
 CC the treatment of prolactin dependent cancers and can inhibit
 CC T-lymphoma cell proliferation. They are also useful for treatment
 CC of prolactinoma, infertility related to abnormal prolactin
 CC regulation, some forms of prostatic cancer, miscarriage and
 CC ovulation irregularities, as well as in assays to measure levels of
 CC non-phosphorylated and phosphorylated prolactin as an indicator of
 CC reproductive pathologies and presence or status of a prolactin-
 CC dependent tumour, and to raise polyclonal and monoclonal antibodies.
 XX
 SQ Sequence 228 AA;

Query Match 90.7%; Score 206; DB 18; Length 228;
 Best Local Similarity 100.0%; Pred. No. 9.7e-190;
 Matches 206; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 1 MNTGSPWKSLLLLVSNLLCSVAPLPICPGARCOVTLRDLPRVAVLSHYIHL 60
 |||||||
 DB 2 mnlkgpwmkslllllvsnlilcgsvaplpicpggarqvtlrdldrevvshyihl 61
 |||||||
 QY 61 SSMFSEFDKRRYHRCGCFITRKAINSCHTSSLPAPEDKEQAQNMQKDFLSILRSWN 120
 |||||||
 DB 62 ssemfsefdkrrythgrgftlkainschttsslapedkeqgmqkdfllslvslrsw 121
 |||||||
 QY 121 EPIYHIVTEVRGQAEALTSKAVETEDQTKRLCEMELIVSYVHETKENETYPWMSG 180
 |||||||
 DB 122 epiyhivtevrqaepealiskaveleqtkrllegmelivsqvhpckeneilypwvs 181
 |||||||
 QY 181 LPSIQMADEESRLSAYVNLHLCLRD 206
 |||||||
 DB 182 lpslqmadeesrlsayvnlhlclrd 207
 |||||||

RESULT 4
 AAY31764
 ID AAY31764 standard; Protein; 199 AA.
 XX
 AC AAY31764;
 XX
 DT 06-DEC-1999 (first entry)
 XX
 DE Human prolactin.
 XX
 KW Prolactin; human; variant; protein engineering.
 XX
 XX Homo sapiens.
 OS
 XX
 XX Key Location/Qualifiers
 FH Misc-difference 59 /note- "optionally substituted by Phe in human
 FT
 FT

FT Misc-difference 60 prolactin variant of Claim 8"
 FT /note- "optionally substituted by Ser in human
 FT prolactin variant of Claim 8"
 FT Misc-difference 61 "optionally substituted by Glu in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 63 "optionally substituted by Ile in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 64 "optionally substituted by Pro in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 67 "optionally substituted by Ser in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 68 "optionally substituted by Asp in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 69 "optionally substituted by Arg in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 71 "optionally substituted by Gly in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 72 "optionally substituted by Thr in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 75 "optionally substituted by Lys in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 76 "optionally substituted by Ser in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 77 "optionally substituted by Asn in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 78 "optionally substituted by Lys in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 79 "optionally substituted by Gly in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 180 "optionally substituted by Asp in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 184 "optionally substituted by Arg in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 185 "optionally substituted by Thr in human
 FT /note- prolactin variant of Claim 8"
 FT Misc-difference 187 "optionally substituted by Phe in human
 FT /note- prolactin variant of Claim 8"
 FT "optionally substituted by Arg in human
 FT prolactin variant of Claim 8"

US9595346-A.
 PD 21-SEP-1999.
 XX
 XX 07-JUN-1995; 95US-04766999.
 XX
 XX 02-FEB-1994; 94US-0190723.
 PR 26-OCT-1989; 89US-0428066.
 PR 27-APR-1992; 92US-0875204.
 PR 13-OCT-1992; 92US-0960227.
 PR 28-OCT-1988; 88US-0264611.
 XX
 XX (GETH) GENENTECH INC.
 PA
 XX
 XX Cunnlingham BC, Wells JA;
 PI
 XX WPI; 1999-560495/47.
 DR

XX Isolated nucleic acids encoding variants of human prolactin and
 PT placental lactogen useful for identifying active domains within those
 PT proteins -
 XX
 PS Claim 7; Fig 2; 86pp; English.
 CC This is the amino acid sequence of human prolactin. The invention
 CC provides a method for the systematic analysis of the structure and
 CC function of polypeptides by identifying active domains which
 CC influence the activity of the polypeptide with a target substance,
 CC and a method for identifying the active amino acid residues within
 CC the active domain of a polypeptide. It also provides polypeptide
 CC variants comprising segment-substituted and residue-substituted
 CC growth hormones, prolactins and placental lactogens. Claimed
 CC variants of human prolactin have 1-19 amino acid substitutions
 CC when compared to the wild-type sequence, selected from H59F, P60S,
 CC S61E, L63I, A64P, E67S, D68N, K69R, Q71E, A72I, M75K, Q77N,
 CC K78L, D79E, H180D, N184T, Y185F and K185R. These mutations
 CC inactivate the active domains and binding sites of the protein.
 CC Identifying receptor binding sites in hormones permits the rational
 CC design of receptor specific variants. Nucleic acids encoding the
 CC variants, expression vectors and host cells are also claimed.
 CC
 XX Sequence 199 AA;

Query Match 87.7%; Score 199; DB 20; Length 199;
 Best Local Similarity 100.0%; Pred. No. 4.5e-183;
 Matches 199; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 29 LPICPGAACQVTLRDLFDRAVAVLSHYIHNLSSEMFSEFDRYTHGRGFTTKAINSCHT 88
 DB 1 lpicpgaaacqvtlrlldfdravavlsyihnlssmfsefdrkythgrgttkainscht 60
 QY 89 SSLATPDKKBOAOOMNOKDFSLIVSLRSWNEPLVHLVTVRGMOEAPFAIKSKAVEIE 148
 DB 61 sslatpedkdaqgmqkdtlslvslrswneplvhlvtevrqmgapealiskaveie 120
 QY 149 EOTKRLLGEMELIVSOVHPETKENEIYPVWSGLPSLOMADEBSRLSAVYNLHCLRRDSH 208
 DB 121 eqtkrllegmellvsgvhpckenekelypwsqpslqmadeesrlsavylnlhcrlrrdsh 180
 QY 209 KIDNYLKLKCRITIHNNC 227
 DB 181 kidnylklklkcrilhnnc 199

RESULT 5
 AAM92258
 ID AAM92258 standard; Protein; 200 AA.
 XX
 AC AAM92258;

DT 08-JUN-1999 (first entry)
 XX
 DE Human anti-angiogenic peptide hPRL Met-1Cys199.

XX Human; anti-angiogenic; prolactin; placental lactogen; hPL; angiogenesis;
 KW growth hormone; hGH; hGH-V; capillary endothelial cell proliferation;
 KW placental vasculature; pregnancy; treatment; angiogenic disease;
 KW tumour; inhibitor; malignant; angiolipoma; arteriovenous malformation;
 KW arthritis; atherosclerotic plaques; corneal graft neovascularisation;
 KW wound healing; proliferative retinopathy; macular degeneration; trachoma;
 KW glaucoma; glaucoma; ocular; uveitis; fracture; Oster-Weber syndrome;
 KW psoriasis; fibroplasia; scleroderma; Kaposi's sarcoma; vascular adhesion;
 KW ulcer; leukema; reproductive disorder; contraceptive agent;
 KW gene therapy; pre-eclampsia; intrauterine growth retardation;
 KW placental dysfunction.

XX Homo sapiens.
 OS
 XX
 XX
 PN MO9851323-A1.

XX
 PD 19-NOV-1998.
 XX
 FF 12-MAY-1998; 98WO-US09691.
 XX
 PR 13-MAY-1997; 97US-0046394.
 XX
 PA (REGC) UNIV CALIFORNIA.
 XX
 PI Martial JA, Struman I, Taylor R, Weiner RI;
 XX
 DR WPI: 1999-045192/04.
 DR N-PSD: AAX01694.
 XX
 PT New anti-angiogenic peptides - comprise N-terminal fragments of
 PT human placental lactogen, human growth hormone, growth hormone
 PT variant or human prolactin
 XX
 PS Example 3; Page 43-44; 87pp; English.

CC This invention describes novel human anti-angiogenic peptides derived
 CC from 10 to 150 consecutive amino acids selected from the N-terminal end
 CC of human placental lactogen (hPL), human growth hormone (hGH), growth
 CC hormone variant (hGH-V), or human prolactin. Such peptides (i) inhibit
 CC capillary endothelial cell proliferation and organisation (ii) inhibit
 CC angiogenesis in chick chorioallantoic membrane and (iii) binds to at
 CC least one specific receptor which does not bind an intact full length
 CC hGH, hPL, prolactin or hGH-V. The invention also describes a method for
 CC diagnosing a probable abnormality of placental vascularisation during
 CC pregnancy. The peptides can be used for treating an angiogenic disease in
 CC a subject, for inhibiting tumour formation or growth in a patient or for
 CC modulating vascularisation of a patient's placenta. In particular, the
 CC peptides can be used for preventing or treating e.g. malignant tumours,
 CC angiolipoma, arteriovenous malformation, arthritic such as rheumatoid
 CC arthritis, atherosclerotic plaques, corneal graft neovascularisation,
 CC delayed wound healing, proliferative retinopathy such as diabetic
 CC retinopathy, macular degeneration, granulations such as those occurring
 CC in haemophilic joints, inappropriate vascularisation in wound healing
 CC such as hypertrophic scars or keloid scars, neovascular glaucoma, ocular
 CC tumour, uveitis, non-union fractures, Oster-Weber syndrome, psoriasis,
 CC pyogenic glaucoma, retrorenal fibroplasia, scleroderma, solid tumours,
 CC Kaposi's sarcoma, trachoma, vascular adhesions, chronic varicose ulcers,
 CC leukemia, and reproductive disorders such as follicular and luteal cysts
 CC and choriocarcinoma. They can also be used as contraceptive agents. DNA
 CC encoding the peptides can be used in gene therapy. The measurement of
 CC abnormal levels of N-terminal fragments of hGH, hGH-V, prolactin or hPL
 CC can be used in assays for impairment of vascular development associated
 CC with pre-eclampsia, intrauterine growth retardation, and placental
 CC dysfunction.
 CC
 XX Sequence 200 AA;

Query Match 87.7%; Score 199; DB 20; Length 200;
 Best Local Similarity 100.0%; Pred. No. 4.5e-183;
 Matches 199; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 29 LPICPGAACQVTLRDLFDRAVAVLSHYIHNLSSEMFSEFDRYTHGRGFTTKAINSCHT 88
 DB 2 lpicpgaaacqvtlrlldfdravavlsyihnlssmfsefdrkythgrgttkainscht 61
 QY 89 SSLATPDKKBOAOOMNOKDFSLIVSLRSWNEPLVHLVTVRGMOEAPFAIKSKAVEIE 148
 DB 62 sslatpedkdaqgmqkdtlslvslrswneplvhlvtevrqmgapealiskaveie 121
 QY 149 EOTKRLLGEMELIVSOVHPETKENEIYPVWSGLPSLOMADEBSRLSAVYNLHCLRRDSH 208
 DB 122 eqtkrllegmellvsgvhpckenekelypwsqpslqmadeesrlsavylnlhcrlrrdsh 181
 QY 209 KIDNYLKLKCRITIHNNC 227
 DB 182 kidnylklklkcrilhnnc 200

```

RESULT 6
AA078691
ID AAR78691 standard; Protein: 351 AA.
XX
XX
AC AAR78691:
XX
DT 16-JAN-1996 (first entry)
XX
DE Prolactin.
XX
KM Prolactin: cDNA: vaccine; augment; bacterins; attenuated vaccine;
KM live vaccine; virus; immune response.
XX
OS Homo sapiens.
XX
PN M09521625-A1.
XX
PD 17-AUG-1995.
XX
PF 14-FEB-1995; 95MO-US01866.
XX
PR 14-FEB-1994; 94US-0196350.
XX
PA (GENZ ) GENZYME CORP.
XX
PI Kaplan J, Mosciacki R, Richards S;
XX
DR WPI; 1995-292943/38.
XX
PT Use of prolactin or prolactin cDNA - for enhancing the immune
PS response of an animal to an infectious disease vaccine
XX
PS Claim 4: Page 11-13; 22pp; English.
XX
CC A composition comprising prolactin or prolactin cDNA can be used for
CC enhancing the immune response of an animal to an infectious disease
CC vaccine. The composition can be used to enhance the effectiveness
CC of vaccines which are considered "weak" e.g. bacterins and
CC attenuated live or killed virus products.
XX
SO Sequence 351 AA;

Query Match 87.7%; Score 199; DB 16; Length 351;
Best Local Similarity 100.0%; Pred. No. 7.5e-183;
Matches 199; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 29 LPTGPGGAARQVTLRDLFDBRAVYLSHYIHNLSSEMFSEPDKRTTHGRGFTTKAINSCHT 88
DB 153 lptpggaarcqvtlrdlfdavvlsyihnlsssemfsefokrythgrgfttkainscht 212
QY 89 SSLATPDEKQAOQONKDFLSIVSLRSWNEPLVHLVTEVRGMOEAPAILSKAVEIE 148
DB 213 sslatpdekeqagmqkdfslsvslrswneplvhlvtevrqmqeapeailskaveie 272
QY 149 EOTKRLLEGMEILVSOVHPETKENEIYPVWSGLPSLQMADEESRLSAVYNLLHCLRDSDH 208
DB 273 eqtkrllegmelivsqvhpetekeneiypvwsqpslqmadeesrlsayynllhclrtdsh 332
QY 209 KIDNYLKLKCRITIHNNC 227
DB 333 kidnylklkcrlihnnnc 351

RESULT 7
AA05805
ID AAR05805 standard; Protein: 359 AA.
XX
XX
AC AAR05805:
XX
XX
DT 13-NOV-1990 (first entry)
XX

```

```

DE DHFR-prolactin fusion gene encoded by plasmid pPRLh4.
XX
XX
KM plasmid pPRLh4; trimethoprim; ampicillin; DHFR; prolactin;
KM dihydrofolate reductase; ds.
XX
XX
OS Synthetic.
XX
PN JP02142479-A.
XX
PD 31-MAY-1990.
XX
PF 24-NOV-1988; 88JP-0296913.
XX
PR 24-NOV-1988; 88JP-0296913.
XX
PA (AGEN ) AGENCY OF IND SCI TECH.
XX
DR WPI; 1990-213062/28.
DR N-PSDB; AA005168.
XX
PT New recombinant plasmid pPRLh4 - can be replicated in escherichia
PT coli and can give trimethoprim and ampicillin resistance to host.
XX
PS Disclosure; : p; Japanese.
XX
CC Plasmid may be used to transform E.coli to express DHFR-prolactin
CC fusion protein.
XX
SO Sequence 359 AA;

Query Match 81.5%; Score 185; DB 11; Length 359;
Best Local Similarity 100.0%; Pred. No. 2.1e-169;
Matches 185; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 29 LPTGPGGAARQVTLRDLFDBRAVYLSHYIHNLSSEMFSEPDKRTTHGRGFTTKAINSCHT 88
DB 161 lptpggaarcqvtlrdlfdavvlsyihnlsssemfsefokrythgrgfttkainscht 220
QY 89 SSLATPDEKQAOQONKDFLSIVSLRSWNEPLVHLVTEVRGMOEAPAILSKAVEIE 148
DB 221 sslatpdekeqagmqkdfslsvslrswneplvhlvtevrqmqeapeailskaveie 280
QY 149 EOTKRLLEGMEILVSOVHPETKENEIYPVWSGLPSLQMADEESRLSAVYNLLHCLRDSDH 208
DB 281 eqtkrllegmelivsqvhpetekeneiypvwsqpslqmadeesrlsayynllhclrtdsh 340
QY 209 KIDNY 213
DB 341 kidny 345

RESULT 8
AA040299
ID AAW40299 standard; Protein: 125 AA.
XX
XX
AC AAW40299:
XX
XX
DT 18-AUG-1998 (first entry)
XX
DE Human prolactin anti-angiogenic protein.
XX
KM Prolactin; anti-angiogenic; cationic vehicle; gene therapy; tumour;
KM liposome; DNA complex; tumour suppressor protein; treatment; neoplastic;
KM metabolic disease.
XX
XX
OS Homo sapiens.
XX
PN EP819758-A2.
XX
PD 21-JAN-1998.
XX
PF 16-JUL-1997; 97EP-0112154.

```

XX 16-JUL-1996; 96US-0680845.
 XX (MIXS/) MIXSON A J.
 PA
 XX
 XX
 PI Mixson AJ;
 DR WPI: 1998-078839/08.
 DR N-PSDB: AAV10505.
 XX
 PT Complexes of DNA encoding anti-angiogenic peptide - with cationic
 PT liposome(s) or cationic polymer, useful for, e.g. gene therapy of
 PT tumours
 XX
 PS Claim 9, Page 11; 47pp; English.
 XX
 CC This sequence represents a fragment of prolactin which is used in a
 CC method to produce a cationic vehicle consisting of a cationic
 CC liposome:DNA complex where the DNA encodes an anti-angiogenic peptide or
 CC tumour suppressor protein. Such complexes are used for treatment of
 CC neoplastic and metabolic diseases especially for gene therapy of tumours.
 XX
 SQ Sequence 125 AA;

Query Match 54.6%; Score 124; DB 19; Length 125;
 Best Local Similarity 100.0%; Pred. NO. 3e-111;
 Matches 124; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 29 LPICGGAARCOVLRDLPDRAVVLISHYTHNLSEMFSEFEDKRYTHGGEITKATNSCHT 88
 DB 2 LPLCPGGAARCOVLRDLPDRAVVLISHYTHNLSEMFSEFEDKRYTHGGEITKATNSCHT 61
 QY 89 SSLATPEDEKQAQOMNQDFLSLIVSLRSNNEPLYHLVTEVRGQEAPEALISKAETE 148
 DB 62 SSLATPEDEKQAQOMNQDFLSLIVSLRSNNEPLYHLVTEVRGQEAPEALISKAETE 121
 QY 149 EOTK 152
 DB 122 eqtk 125

RESULT 9
 AAP82079
 ID AAP82079 standard; protein: 227 AA.
 AC AAP82079;
 XX 18-OCT-1990 (first entry)
 DT
 XX
 DE Human prolactin gene.
 XX
 KW Prolactin; milk; contraceptive; dairy cows; lactation.
 OS
 XX Homo sapiens.
 OS
 FH Key Location/Qualifiers
 FT Protein 1..227
 FT /label=preprolactin
 FT 29..227
 FT /label=prolactin
 FT
 XX
 PN US4725549-A.
 XX
 PD 16-FEB-1988.
 XX
 PE 23-MAR-1984; 84US-0592714.
 XX
 XX 22-SEP-1980; 80US-0189160.
 PR 23-MAR-1984; 84US-0592714.
 XX
 PA (REGC) UNIVERSITY OF CALIFORNIA.
 XX

PI Cooke NE, Baxter JD;
 XX
 DR WPI: 1988-070922/10.
 DR N-PSDB: AAN80115.
 XX
 XX
 PT DNA coding for prolactin - obtd. by prepn. of reverse transcript
 PT of mRNA coding for prolactin and inserting into a transfer vector.
 XX
 PS Disclosure: ; English.
 XX
 CC The cDNA encoding the prolactin can be inserted into expression vectors
 CC for the prodn. of prolactin which can be admin. to dairy cows to
 CC increase milk yield. The protein can also be used as a female
 CC contraceptive and to ensure adequate milk prodn. for breast feeding
 CC mothers. See also AAP82078.
 XX
 SQ Sequence 227 AA;

Query Match 54.6%; Score 124; DB 9; Length 227;
 Best Local Similarity 100.0%; Pred. NO. 5e-111;
 Matches 124; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 104 NQKDFLSLIVSLRSNNEPLYHLVTEVRGQEAPEALISKAETEEOGRLEGMELIVS 163
 DB 104 NQKDFLSLIVSLRSNNEPLYHLVTEVRGQEAPEALISKAETEEOGRLEGMELIVS 163
 QY 164 QVHPETKENEIYPRVWSGIPSIQMADESRLSNYYMLCLRDSDKIDNYTKLKCRIT 223
 DB 164 QVHPETKENEIYPRVWSGIPSIQMADESRLSNYYMLCLRDSDKIDNYTKLKCRIT 223
 QY 224 NNCC 227
 DB 224 nncc 227

RESULT 10
 AAW40300
 ID AAW40300 standard; protein: 252 AA.
 AC AAW40300;
 XX
 DT 18-AUG-1998 (first entry)
 XX
 DE Human concatamerised prolactin anti-angiogenic protein.
 XX
 KW Prolactin; anti-angiogenic; cationic vehicle; gene therapy; tumour;
 KW liposome; DNA complex; tumour suppressor protein; treatment; neoplastic;
 KW metabolic disease; concatamer.
 OS
 XX Homo sapiens.
 OS
 XX Synthetic.
 OS
 FH Key Location/Qualifiers
 FT MISC-difference 98 /note="encoded by C"
 FT MISC-difference 124..126 /note="encoded by ACCGGT"
 FT MISC-difference 128 /note="encoded by AGA"
 FT MISC-difference 251..252 /note="encoded by ACC"
 FT
 XX
 PN EP819758-A2.
 XX
 PD 21-JAN-1998.
 XX
 PE 16-JUL-1997; 97EP-0112154.
 XX
 XX 16-JUL-1996; 96US-0680845.
 PR
 XX
 PA (MIXS/) MIXSON A J.
 XX

PI Mixson AJ;
 XX
 DR WPI: 1998-078839/08.
 DR N-PSDB; AAV10506.
 XX
 PT Complexes of DNA encoding anti-angiogenic peptide - with cationic
 PT liposome(s) or cationic polymer, useful for, e.g. gene therapy of
 PT tumours
 XX
 PS Claim 9; Page 12; 47pp; English.
 XX
 CC This sequence represents a concatamerised fragment of prolactin which
 CC is used in a method to produce a cationic vehicle consisting of a
 CC cationic liposome:DNA complex where the DNA encodes an anti-angiogenic
 CC peptide or tumour suppressor protein. Such complexes are used for
 CC treatment of neoplastic and metabolic diseases especially for gene
 CC therapy of tumours. The prolactin nucleotide sequence given in the
 CC specification appears to have nucleotides missing and as such does
 CC not correspond to the protein sequence represented in the
 CC specification.
 CC
 XX Sequence 252 AA;

Query Match 54.6%; Score 124; DB 19; Length 252;
 Best Local Similarity 100.0%; Pred. No. 5.5e-111;
 Matches 124; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 29 LPTCPGAAARCOVTLRDLFDRAVVLSHYIHNLSEMPSEFDKRYTGRGFTKAINSCHT 88
 DB 2 LPTCPGAAARCOVTLRDLFDRAVVLSHYIHNLSEMPSEFDKRYTGRGFTKAINSCHT 61
 QY 89 SSLATPEDEKQAOQNMOKDFLSLIVSLRSWNEPLYHLVTEVRGMOEAPAILSKAVEIE 148
 DB 62 SSATPEDEKQAGQMKGKDLISLIVSLRSWNEPLYHLVTEVRGMOEAPAILSKAVEIE 121
 QY 149 EQTK 152
 DB 122 eqtk 125

RESULT 11
 AAW23629
 ID AAW23629 standard; Protein: 199 AA.
 AC AAW23629;
 XX
 DT 11-FEB-1998 (first entry)
 XX
 DE Human prolactin (Ser-179 substituted).
 XX
 KW Prolactin antagonist; phosphorylation; hyperprolactinaemia;
 KW prolactinoma; prostate cancer; tumour; T-lymphoma; infertility;
 KW lactation; miscarriage; ovulation; antibody; therapy; human.
 OS Homo sapiens.
 OS Synthetic.
 OS
 XX
 FT Key Location/Qualifiers
 FT MISC-difference 179 /note="variable site"
 FT
 XX
 PN WO9727865-A1.
 XX
 PD 07-AUG-1997.
 XX
 PF 30-JAN-1997; 97MO-US01435.
 XX
 PR 31-JAN-1996; 96US-0594809.
 XX
 PA (REGC) UNIV CALIFORNIA.
 XX
 PI Walker AM;
 XX

XX
 DR WPI: 1997-402308/37.
 XX
 PT Substituted prolactin peptide(s) and proteins having an amino acid
 PT substitution for serine in the C-terminal - useful as prolactin
 PT antagonists, e.g. for treating prolactin dependent cancers
 XX
 PS Disclosure; Page 106-107; 158pp; English.
 XX
 CC This protein comprises human prolactin, substituted at residue 179
 CC (Ser in the native sequence). It has prolactin antagonist
 CC activity, antagonising the stimulation of T lymphoma cell growth in
 CC the presence of non-phosphorylated prolactin. Claimed prolactin
 CC antagonists (see AAW23607-18) comprise prolactin substitution mutant
 CC proteins and C-terminal peptides. The Antagonists can be used for
 CC the treatment of prolactin dependent cancers and can inhibit
 CC T-lymphoma cell proliferation. They are also useful for treatment
 CC of prolactinoma, infertility related to abnormal prolactin
 CC regulation, some forms of prostatic cancer, miscarriage and
 CC ovulation irregularities, as well as in assays to measure levels of
 CC non-phosphorylated and phosphorylated prolactin as an indicator of
 CC reproductive pathologies and presence or status of a prolactin-
 CC dependent tumour, and to raise polyclonal and monoclonal antibodies.
 CC
 XX Sequence 199 AA;

Query Match 45.4%; Score 103; DB 18; Length 199;
 Best Local Similarity 100.0%; Pred. No. 6.5e-91;
 Matches 103; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
 QY 104 NORDFLSLIVSLRSWNEPLYHLVTEVRGMOEAPAILSKAVEIEQTKRLGMEILVS 163
 DB 76 NQDFFSLIVSLRSWNEPLYHLVTEVRGMOEAPAILSKAVEIEQTKRLGMEILVS 135
 QY 164 QVHPETKENEIIPYWSGLPESLOMADEESRUSAYYNILHCLRD 206
 DB 136 QVHPETKENEIIPYWSGLPESLOMADEESRUSAYYNILHCLRD 178

RESULT 12
 AAY78428
 ID AAY78428 standard; Protein: 199 AA.
 AC AAY78428;
 XX
 DT 09-MAY-2000 (first entry)
 XX
 DE Human prolactin amino acid sequence.
 XX
 KW Human growth hormone; hGH; prolactin; placental lactogen;
 KW modification; mutagenesis.
 XX
 OS Homo sapiens.
 OS
 XX
 PN US6013478-A.
 XX
 PD 11-JAN-2000.
 XX
 PF 24-JUN-1998; 98US-0104036.
 XX
 PR 26-OCT-1989; 89US-0428066.
 PR 27-APR-1992; 92US-0875204.
 PR 13-OCT-1992; 92US-0960227.
 PR 02-FEB-1994; 94US-0190723.
 PR 06-JUN-1995; 95US-0483039.
 PR 30-JUN-1997; 97US-0903398.
 PR 28-OCT-1988; 88US-0264611.
 XX
 PA (GETH) GENENTECH INC.
 XX
 PI Wells JA, Cunningham BC;
 XX

DR WPI: 2000-159873/14.

XX Recombinant production of variant polypeptides, e.g. growth hormone
PT variants with altered receptor specificity, using cells transformed
PT with DNA selected by scanning mutagenesis in at least one peptide
PT domain

PS Example 2: Fig 2: 83pp: English.

XX The present invention describes the production of a polypeptide variant
CC (1) comprising segment substituted and residue substituted growth
CC hormone, prolactin or placental lactogens. The method is particularly
CC used to produce variants of growth hormone (GH), prolactin or placental
CC lactogen, but may also be applied to receptors, interferons, and
CC colony-stimulating factors. A particular application is the production
CC of human GH variants with altered (decreased or increased) binding
CC interaction with the somatogenic receptor, i.e. compounds useful as
CC human GH (ant)agonists and which may have higher potency for stimulating
CC other human GH receptors, and as standards or tracers in immunoassays
CC active residues in active domains, including those critical for
CC interaction with different targets. The present sequence represents a
CC human prolactin amino acid sequence, which is used in the
CC exemplification of the present invention.

CC Sequence 199 AA:

SO Query Match 44.5%; Score 101; DB 21; Length 199;
Best Local Similarity 100.0%; Pred. No. 5.4e-89;
Matches 101; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 29 LPICPGCAARQVTLRDLFDRAVYLSHYINLSEMFSEDFKRYTHGFTKAINSCHT 88
Db 1 LPICPGGARGCVLTLDIFRAVYLSHYINLSEMFSEDFKRYTHGFTKAINSCHT 60

OY 89 SSLATPEKKEAOQONOKDFLSLYILRSNNEPLVTEHGKAT 129
Db 61 SSLATPEKKEGAGQMGKDFLSLYILRSNNEPLVTEHGKAT 101

RESULT 13

AAW92260 standard; Protein: 140 AA.

AC AAW92260;

DT 08-JUN-1999 (first entry)

DE Human anti-angiogenic peptide 16K hPRL Met-1Prol39.

XX Human; anti-angiogenic; prolactin; placental lactogen; hPL; angiogenesis;
KW growth hormone; hGH; hGH-V; capillary endothelial cell proliferation;
KW placental vascularisation; pregnancy; treatment; angiogenic disease;
KW tumour; inhibitor; malignant; angiofibroma; arteriovenous malformation;
KW arthritis; atherosclerotic plaques; corneal graft neovascularisation;
KW wound healing; proliferative retinopathy; macular degeneration; trachoma;
KW granuloma; glaucoma; ocular; uveitis; fracture; Osler-Weber syndrome;
KW psoriasis; fibroplasia; scleroderma; Kaposi's sarcoma; vascular adhesion;
KW ulcer; leukemia; reproductive disorder; contraceptive agent;
KW gene therapy; pre-eclampsia; intrauterine growth retardation;
KW placental dysfunction.

XX Homo sapiens.

OS MO9851323-A1.

PN 19-NOV-1998.

PD 12-MAY-1998; 98MO-US09691.

PR 13-MAY-1997; 97US-0046394.

XX

PA (REGC) UNIV CALIFORNIA.

PI Martial JA, Struman I, Taylor R, Weiner RI;

XX WPI: 1999-045192/04.

DR N-PSDB; AAX01696.

PT New anti-angiogenic peptides - comprise N-terminal fragments of
PT human placental lactogen, human growth hormone, growth hormone
PT variant or human prolactin

PS Example 3: Page 44-45; 87pp: English.

XX This invention describes novel human anti-angiogenic peptides derived
CC from 10 to 150 consecutive amino acids selected from the N-terminal end
CC of human placental lactogen (hPL), human growth hormone (hGH), growth
CC hormone variant (hGH-V), or human prolactin. Such peptides (1) inhibit
CC capillary endothelial cell proliferation and organisation (11) inhibit
CC angiogenesis in chick chorioallantoic membrane and (111) binds to at
CC least one specific receptor which does not bind an intact full length
CC hGH, hPL, prolactin or hGH-V. The invention also describes a method for
CC diagnosing a probable abnormality of placental vascularisation during
CC pregnancy. The peptides can be used for treating an angiogenic disease in
CC a subject, for inhibiting tumour formation or growth in a patient or for
CC modulating vascularisation of a patient's placenta. In particular, the
CC peptides can be used for preventing or treating e.g. malignant tumours,
CC angiofibroma, arteriovenous malformation, arthritic such as rheumatoid
CC arthritis, atherosclerotic plaques, corneal graft neovascularisation,
CC delayed wound healing, proliferative retinopathy such as diabetic
CC retinopathy, macular degeneration, granulations such as those occurring
CC in haemophilic joints, inappropriate vascularisation in wound healing
CC such as hypertrophic scars or keloid scars, neovascular glaucoma, ocular
CC tumour, uveitis, non-union fractures, Osler-Weber syndrome, psoriasis,
CC pyogenic glaucoma, retrolental fibroplasia, scleroderma, solid tumours,
CC Kaposi's sarcoma, trachoma, vascular adhesions, chronic varicose ulcers,
CC leukemia, and reproductive disorders such as follicular and luteal cysts
CC and choriochorionoma. They can also be used as contraceptive agents. DNA
CC encoding the peptides can be used in gene therapy. The measurement of
CC abnormal levels of N-terminal fragments of hGH, hGH-V, prolactin or hPL
CC can be used in assays for impairment of vascular development associated
CC with pre-eclampsia, intrauterine growth retardation, and placental
CC dysfunction.

XX Sequence 140 AA:

SO Query Match 35.7%; Score 81; DB 20; Length 140;
Best Local Similarity 100.0%; Pred. No. 6.2e-70;
Matches 81; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 87 HTSLATPEKKEAOQONOKDFLSLYILRSNNEPLVTEHGKATPEALTSKAVE 146
Db 60 HTSLATPEKKEGAGQMGKDFLSLYILRSNNEPLVTEHGKATPEALTSKAVE 119

OY 147 IEQGTKRLLEGMEILVSVQHP 167
Db 120 IEQGTKRLLEGMEILVSVQHP 140

RESULT 14

AAW92261 standard; Protein: 143 AA.

AC AAW92261;

DT 08-JUN-1999 (first entry)

DE Human anti-angiogenic peptide 16K hPRL Met-1Prol42.

XX Human; anti-angiogenic; prolactin; placental lactogen; hPL; angiogenesis;
KW growth hormone; hGH; hGH-V; capillary endothelial cell proliferation;
KW placental vascularisation; pregnancy; treatment; angiogenic disease;
KW tumour; inhibitor; malignant; angiofibroma; arteriovenous malformation;

KM arthritis atherosclerotic plaques; corneal graft neovascularisation;
 KM wound healing; proliferative retinopathy; macular degeneration; trachoma;
 KM granulation; glaucoma; ocular; uveitis; fracture; Osler-Weber syndrome;
 KM psoriasis; fibroplasia; scleroderma; Kaposi's sarcoma; vascular adhesion;
 KM ulcer; leukaemia; reproductive disorder; contraceptive agent;
 KM gene therapy; pre-eclampsia; intrauterine growth retardation;
 KM placental dysfunction.
 OS Homo sapiens.
 XX
 XX
 PN MO9851323-A1.
 XX
 XX 19-NOV-1998.
 PD
 PF 12-MAY-1998; 98MO-US09691.
 XX
 PR 13-MAY-1997; 97US-0046394.
 PA (REGC) UNIV CALIFORNIA.
 PI Martial JA, Struman I, Taylor R, Weiner RI;
 XX
 XX WPI; 1999-045192/04.
 DR N-PSDB; AAX01697.
 XX
 PT New anti-angiogenic peptides - comprise N-terminal fragments of
 PT human placental lactogen, human growth hormone, growth hormone
 PT variant or human prolactin
 XX
 XX
 XX Example 3: Page 45; 87pp; English.
 XX
 CC This invention describes novel human anti-angiogenic peptides derived
 CC from 10 to 150 consecutive amino acids selected from the N-terminal end
 CC of human placental lactogen (hPL), human growth hormone (hGH), growth
 CC hormone variant (hGH-V), or human prolactin. Such peptides (i) inhibit
 CC capillary endothelial cell proliferation and organisation (ii) inhibit
 CC angiogenesis in chick chorioallantoic membrane and (iii) binds to at
 CC least one specific receptor which does not bind an intact full length
 CC hGH, hPL, prolactin or hGH-V. The invention also describes a method for
 CC diagnosing a probable abnormality of placental vascularisation during
 CC pregnancy. The peptides can be used for treating an angiogenic disease in
 CC a subject, for inhibiting tumour formation or growth in a patient or for
 CC modulating vascularisation of a patient's placenta. In particular, the
 CC peptides can be used for preventing or treating e.g. malignant tumours,
 CC angiodiobroma, arteriosclerotic malformation, arthritic such as Rheumatoid
 CC arthritis, atherosclerotic plaques, corneal graft neovascularisation,
 CC delayed wound healing, proliferative retinopathy such as diabetic
 CC retinopathy, macular degeneration, granulations such as those occurring
 CC in haemophilic joints, inappropriate vascularisation in wound healing
 CC such as hypertrophic scars or keloid scars, neovascular glaucoma, ocular
 CC tumour, uveitis, non-united fractures, Osler-Weber syndrome, psoriasis,
 CC pyogenic glaucoma, retrolental fibroplasia, scleroderma, solid tumours,
 CC Kaposi's sarcoma, trachoma, vascular adhesions, chronic varicose ulcers,
 CC leukaemia, and reproductive disorders such as follicular and luteal cysts
 CC and choriorachnoma. They can also be used as contraceptive agents. DNA
 CC encoding the peptides can be used in gene therapy. The measurement of
 CC abnormal levels of N-terminal fragments of hGH, hGH-V, prolactin or hPL
 CC can be used in assays for impairment of vascular development associated
 CC with pre-eclampsia, intrauterine growth retardation, and placental
 CC dysfunction.
 CC
 XX
 XX
 SQ Sequence 143 AA:
 Query Match 35.7%; Score 81; DB 20; Length 143;
 Best Local Similarity 100.0%; Pred. No. 6,3e-70;
 Matches 81; Conservative 0; Mismatches 0; Indels 0; Gaps 0.
 QY 87 HTSSLATPEDEKQAOQNMOKDFLSLIVSLIRSMNPEYLHLVTEVVGMOEAPAILSKAVE 146
 Db 60 htsslatpedekqagmqmkgkftlslivslirsmnpeylhlvtevgmgeapailskave 119
 QY 147 IEDQTKRLLEGMEELIVSOVNP 167

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Page 10

Db 103 virgmgcap 110

Search completed: April 25, 2002, 11:08:06
Job time: 115 sec

OY 180 GLPQLQMADEESRLSAYVNLHCLRDSDSHKIDNYLKLKCRITHHNNC 227
 DB 181 GLPQLQMADEESRLSAYVNLHCLRDSDSHKIDNYLKLKCRITHHNNC 228

RESULT 2

O9TS41 PRELIMINARY: PRT: 199 AA.
 AC O9TS41: 01-MAY-2000 (TREMBlrel. 13, Created)
 DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
 DE 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
 OS PROLACTIN.
 OC Papio (baboons).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
 OC Cercopithecinae;
 OC NCBI_TaxID=9554;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA MEDLINE-92037387; PubMed-1935793;
 RX Cole E.S., Nichols E.H., Lauziere K., Edmunds T., McPherson J.M.;
 RT "Characterization of the microheterogeneity of recombinant primate
 prolactin: implications for posttranslational modifications of the
 hormone in vivo."; 199 AA; 22850 MW; 872A8935FEA43E67 CRC64;
 RL Endocrinology 129:2639-2646(1991).
 DR HSSP: Q28632; IAN3.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 DR PRINTS: PR00836; SOMATOTROPIN.
 DR PROSITE: PS00338; SOMATOTROPIN_1; 1.
 DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
 SQ SEQUENCE 199 AA; 22850 MW; 872A8935FEA43E67 CRC64;

Query Match 85.6%; Score 1014; DB 6; Length 199;
 Best Local Similarity 96.5%; Pred. No. 9.2e-80;

Matches 192; Conservative 5; Mismatches 2; Indels 0; Gaps 0;

OY 29 LPICGGAARCOVTLRDLEFDRVAVLSHYIHNLSSEMFSEFDRYTHGCFITKAINSCHT 88
 DB 1 LPICGGAARCOVTLRDLEFDRVAVLSHYIHNLSSEMFSEFDRYTHGCFITKAINSCHT 60
 OY 89 SSLAPPEKEQAQNMNQDFLSLVSILRSWNEPLHLVTEYRGQAEPAILSKAVEIE 148
 DB 61 SSLAPPEKEQAQNMNQDFLSLVSILRSWNEPLHLVTEYRGQAEPAILSKAVEIE 120
 OY 149 EOTKRLGEMELIYSQVHPETKENIYPVWSGLPSLOMADEESRLSAYVNLHCLRDSD 208
 DB 121 EOTKRLGEMELIYSQVHPETKENIYPVWSGLPSLOMADEESRLSAYVNLHCLRDSD 180
 OY 209 KIDNYLKLKCRITHHNNC 227
 DB 181 KIDNYLKLKCRITHHNNC 199

RESULT 3

O9DEI3 PRELIMINARY: PRT: 229 AA.
 AC O9DEI3: 01-MAR-2001 (TREMBlrel. 16, Created)
 DT 01-MAR-2001 (TREMBlrel. 16, Last sequence update)
 DE 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
 OS PROLACTIN.
 OC Gallus gallus (Chicken).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
 OC Gallus.
 OC NCBI_TaxID=9031;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Ohkubo T., Tanaka M., Nakashima K.;
 RT "Cloning and characterization of chicken prolactin gene.";

RL Submitted (Feb-1998) to the EMBL/Genbank/DBJ databases.

DR EMBL: AB011438; BAB18728.1; -;
 DR EMBL: AB011434; BAB18728.1; JOINED.
 DR EMBL: AB011435; BAB18728.1; JOINED.
 DR EMBL: AB011436; BAB18728.1; JOINED.
 DR EMBL: AB011437; BAB18728.1; JOINED.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 DR PRINTS: PR00836; SOMATOTROPIN.
 DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE: PS00266; SOMATOTROPIN_2; 1.
 SQ SEQUENCE 229 AA; 25863 MW; 11314FE65F775AE CRC64;

Query Match 67.9%; Score 805; DB 13; Length 229;
 Best Local Similarity 67.7%; Pred. No. 1.1e-61;

Matches 155; Conservative 32; Mismatches 40; Indels 2; Gaps 2;

OY 1 MNKSPMKGSL-LTLVSNLLC-OSVAPLPICGGAARCOVTLRDLEFDRVAVLSHYIH 58
 DB 1 MSNRGASLKGFLAVLAVLSNTLTKEGYSLPICIGSYNCVSLGELFDRVAVLSHYIH 60
 OY 59 NLSSEMFSEFDRYTHGCFITKAINSCHTSSLATPEDEKEQAQNMNQDFLSLVSILRS 118
 DB 61 YLSSEIFNEFDERYAQGRGCFITKAVNGCHTSSLATPEDEKEQAQNMNQDFLSLVSILRS 120
 OY 119 WNEPLHLVTEYRGQAEPAILSKAVEIEEOTKRLGEMELIYSQVHPETKENIYPW 178
 DB 121 WNDPLHLASEVORIKEDVDITLTKRAVEIEEONKRLGEMELIYGVHSGAGNEIYSHW 180
 OY 179 SGLPQLQMADEESRLSAYVNLHCLRDSDSHKIDNYLKLKCRITHHNNC 227
 DB 181 SGLPQLQMADEESRLSAYVNLHCLRDSDSHKIDNYLKLKCRITHHNNC 229

RESULT 4

O9QZL1 PRELIMINARY: PRT: 225 AA.
 AC O9QZL1: 01-MAY-2000 (TREMBlrel. 13, Created)
 DT 01-MAY-2000 (TREMBlrel. 13, Last sequence update)
 DE 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
 OS PROLACTIN.
 GN PRL.
 OS Microtus montebelli (Japanese grass vole).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathii; Muridae; Arvicolinae;
 OC Microtus.
 OC NCBI_TaxID=79202;
 RN [1]
 RP SEQUENCE FROM N.A.
 RA Ohnoshiri S., Asami W., Kaneko M., Yoshida S., Yoshida T., Tomogane H.;
 RT "Sequencing of prolactin cDNA of Japanese field vole.";
 RT Submitted (Aug-1999) to the EMBL/Genbank/DBJ databases.
 DR EMBL: AB178933; A0033180.1; -;
 DR HSSP: Q28632; IAN3.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone; 1.
 DR PRINTS: PR00836; SOMATOTROPIN.
 DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE: PS00266; SOMATOTROPIN_2; 1.
 SQ SEQUENCE 225 AA; 25719 MW; 323383E8407085BA CRC64;

Query Match 63.0%; Score 747; DB 11; Length 225;
 Best Local Similarity 62.6%; Pred. No. 1.1e-56;

Matches 142; Conservative 36; Mismatches 47; Indels 2; Gaps 1;

OY 1 MNKSPMKGSL-LTLVSNLLC-OSVAPLPICGGAARCOVTLRDLEFDRVAVLSHYIH 60
 DB 1 MTIGSDRKGTLLLVSNLLFCQNVHPLPICHSG--NCQMTLOELFDRVAVLSHYIYM 58
 OY 61 SSMSEFSEFDRYTHGCFITKAINSCHTSSLATPEDEKEQAQNMNQDFLSLVSILRSW 120

Db	59	SADFFIEFEKRYAQDHFIFAKAIINDCPTSSLSAPDEKOEAKQVPPVELNLILSLVHSNN	111
Oy	121	EPPLHYLTVENGMOEAPAILSKAVEIEEQTKRLLEGSMELIYSQVHPETKENETIYPMWG	180
Db	119	GPFLPOLYTVENGIDHEASDAISIRAKETIGEONKRLLEGIEIKTLGOAYPEAKGNEVYSWQ	178
Oy	181	LPSLQMADEESRLSAVYNNLHCHLRPSRSHKIDNTLTKLKCRIHNNNC	227
Db	179	FPSLOGIDEESRDLATYNNKIRCLERDSHKVDNYLTKILRCRIYHNNNC	225
RESULT	5		
09CP00			
ID	09CP00	PRELIMINARY;	PRT: 227 AA.
AC	09CP00;		
DT	01-JUN-2001 (TREMBlrel. 17, Created)		
DT	01-JUN-2001 (TREMBlrel. 17, Last sequence update)		
DT	01-JUN-2001 (TREMBlrel. 17, Last annotation update)		
DE	PROLACTIN.		
CN	PRU.		
OS	Mus musculus (Mouse).		
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;		
OC	Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.		
OX	NCBI_TaxId=10090;		
RN	[1]		
RP	SEQUENCE FROM N.A.		
RC	STRAIN=C57BL/6J; TISSUE=EMBRYO;		
RX	MEDLINE=21085660; Pubmed=11217851;		
RA	Kawai J., Shinaeawa A., Shibata K., Yoshino M., Itoh M., Ishi Y.,		
RA	Atkawa T., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,		
RA	Alzawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana I.,		
RA	Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,		
RA	Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,		
RA	Fleischmann W., Gaasterland T., Gissi C., King B., Kochiwa H.,		
RA	Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,		
RA	Schirnl L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,		
RA	Sakai K., Okido T., Furuno M., Aono H., Balderelli R., Barsh G.,		
RA	Blake J., Botfelli D., Bojunga N., Carrinci P., de Bonaldo M.F.,		
RA	Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,		
RA	Guustinch S., Hill D., Hofmann M., Hune D.A., Kamiya M., Lee N.H.,		
RA	Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,		
RA	Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,		
RA	Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,		
RA	Suzuki H., Toyooka K., Wang K.H., Wetz C., Whitlaker C., Wilming L.,		
RA	Yamshab-Boris A., Yoshida K., Hasegawa Y., Kawaji H., Kohsaki S.,		
RA	Hayashizaki Y.;		
RL	"Functional annotation of a full-length mouse cDNA collection.";		
RL	Nature 409:685-690(2001).		
DR	EMBL; AK017384; BAB30821.1;		
DR	EMBL; AK017520; BAB30786.1;		
DR	MGI; MGI:97762; PrL.		
DR	InterPro: IPR001400; SOMATOTROPIN.		
DR	Pfam: PF00103; hormone.1.		
DR	PRINTS; PR00836; SOMATOTROPIN.		
DR	PROSITE; PS00338; SOMATOTROPIN_2; 1.		
SO	SEQUENCE 227 AA; 25657 MW; CF99840CA760FA7F CRC64;		
Query Match	60.4%;	Score 716;	DB 11; Length 227;
Best Local Similarity	60.8%;	Pred. No. 5e-54;	
Matches 138;	Conservative 38;	Mismatches 49;	Indels 2; Gaps
Oy	1	MNIKSPKRGSLLLVSNLLLCQSVAPLPCPGARCVQTLRDLPRFAVVLSSHVYHNL	60
Db	3	MNSQSAKQKTLVLLLSNLLFCQNGQPLPICSG--DCQTSRLRDLRVYILSHYHTL	60
Oy	61	SSSEFSEFDKRYTHGRCFITRAINSCHTSSLLATPEDEQAQNMOKDLSLISIRSN	120
Db	61	YTDMEIFEDKQYVDREPMVAVINDCPTSSLATPEDEKQALKVPEVLLNLISLQSSS	120
Oy	121	EPPLHYLTVENGMOEAPAILSKAVEIEEQTKRLLEGSMELIYSQVHPETKENETIYPMWG	180
Db	121	DPFLPOLYTVENGIDHEASDAISIRAKETIGEONKRLLEGIEIKTLGOAYPEAKGNEVYSWQ	180

OY 181 LPSIQMADEBSRLSAYVNLHCLRDSDSKIDNYLKLKCRITIHNNCC 227
 ||||| ||||| : : |||||||:|:|:~|:~| |
 Db 181 LPSIQGVDEESKILSRNTIRCLRDRSHKVDFLKVLRCOTIAHONNC 227
 RESULT 6
 ID Q9CPQ2 PRELIMINARY; PRT; 228 AA.
 AC Q9CPQ2;
 DT 01-JUN-2001 (TREMblrel, 17, created)
 DT 01-JUN-2001 (TREMblrel, 17, last sequence update)
 DE 01-JUN-2001 (TREMblrel, 17, last annotation update)
 GN PROLACTIN.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 CC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
 CX NCBI_Taxid=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RC STRAIN=C57BL/6J; TISSUE=EMBRYO;
 RX MEDLINE=21085660; PubMed=11217851;
 RA Kawai J., Shinaagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
 RA Arakawa T., Hara A., Fukunishi Y., Konno H., Adachi J., Fukuda S.,
 RA Atawa K., Itawa M., Nishi K., Kiyosawa H., Kondo S., Yamanka I.,
 RA Salto T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Salto R.,
 RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
 RA Fletschmann W., Gaasterland T., Gissi C., Ring B., Kochwa H.,
 RA Kusel P., Lewis S., Matsuo Y., Nikaldi I., Pesole G., Quackenbush J.,
 RA Schriml L.M., Staubli F., Suzuki R., Tomita M., Wagner L., Washio T.,
 RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
 RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
 RA Blumstein M.J., Bull C., Fletcher C., Fujita M., Gariboldi M.,
 RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamlya M., Lee N.H.,
 RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
 RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
 RA Sasaki H., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
 RA Suzuki H., Toyooka K., Wang K.H., Weitz C., Whitaker C., Wilming L.,
 RA Wyshna-Boris A., Yoshida K., Haasegawa T., Kawaji H., Koltsuki S.,
 RA Hayashizaki Y.;
 RT "Functional annotation of a full-length mouse cDNA collection.";
 RL Nature 409:685-690(2001).
 DR EMBL; AK017579; BAB30816.1; -
 DR EMBL; AK017521; BAB30787.1; -
 DR MGP; MG1:97762; BAB3.
 DK InterPro; IPRO01400; SOMATOTROPIN.
 DR Pfam; PF00103; hormone; 1.
 DR PRINTS; PR00836; SOMATOTROPIN.
 DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
 SQ SEQUENCE 228 AA; 25728 MW; APCADP003728CD77 CXC64;

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RESULT 7
O9CYL8 PRELIMINARY: PRT: 228 AA.
AC O9CYL8:
DT 01-JUN-2001 (TREMBlrel. 17, Created)
DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
DT 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
DE PROLACTIN.
GN PRL.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=EMBRYO;
RX MEDLINE=21085660; PubMed=11217851;
RA Kawaji J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana K. I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Fleischmann W., Gasterland T., Gissi C., King B., Kochwa H.,
RA Kuehl P., Lewis S., Matsuo Y., Nakado I., Pesole G., Quackenbush J.,
RA Schiml L.M., Staudl F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boftelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Brownstein M.J., Bull C., Fletcher C., Fujita M., Gariboldi M.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamita M., Lee N.H.,
RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombeerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Saeki K., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyooka K., Wang K.H., Weltz C., Whitaker C., Wilming L.,
RA Wyszynski B., Yoshida K., Hasegawa Y., Kawaji H., Kohlski S.,
RA Hayashizaki Y.;
RT "Functional annotation of a full-length mouse cDNA collection.";
RL Nature 409:685-690(2001).
DR EMBL: AK017547; BAB30799.1; -
DR MGI: MGI:97762; PRL.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone.1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00338; SOMATOTROPIN_2: 1.
SQ SEQUENCE 228 AA; 25756 MW; 40B67042AB89523B CRC64;

Query Match 59.3%; Score 702.5; DB 11; Length 228;
Best Local Similarity 60.1%; Pred. NO. 7.4e-53;
Matches 137; Conservative 39; Mismatches 49; Indels 3; Gaps 2;

OY 1 MNKSPMK-GSLLLVNLLCSVAPLPICPGAARCOVTLNDFRAVYLSHYTHN 59
DB 3 MNSQSAQRKTLNLLNLFCONVOPPLPCSAAG--DCQTSLEKLEFRAVYLSHYTHN 60
OY 60 LSEMFSEFDRYTHGRGFTIRAINSCHTSLATPEDEKQAQOMNOKDFSLIVSLRSMN 119
DB 61 YTFMEIFEDKOYVDREFRMKVINDCPTSLATPEDEKQAQKVPPEVLNLLISLVSS 120
OY 120 NEPLVHLYTEVGMQAPALISKAVEIEQTKRLLEGHLLVSOVHPETKENEIYPWMS 179
DB 121 SDPLFQLTGVGIDQAPAYILSRKETEONKQLEGEVKITISQAYPEAKNGITFVMS 180
OY 180 GLPSLOMDEESRLSAYYNLHLCLRDHSKIDNYIKLKCRITIHNNC 227
DB 181 QLPQGVDEESKILSLRNTIRCLRDHSKIDNYIKLKCRITIHNNC 228

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DT 01-JUN-2001 (TREMBlrel. 17, Last sequence update)
DT 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
DE PROLACTIN.
GN PRL.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=EMBRYO;
RX MEDLINE=21085660; PubMed=11217851;
RA Kawaji J., Shinagawa A., Shibata K., Yoshino M., Itoh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana K. I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Fleischmann W., Gasterland T., Gissi C., King B., Kochwa H.,
RA Kuehl P., Lewis S., Matsuo Y., Nakado I., Pesole G., Quackenbush J.,
RA Schiml L.M., Staudl F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boftelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Brownstein M.J., Bull C., Fletcher C., Fujita M., Gariboldi M.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamita M., Lee N.H.,
RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombeerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Saeki K., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyooka K., Wang K.H., Weltz C., Whitaker C., Wilming L.,
RA Wyszynski B., Yoshida K., Hasegawa Y., Kawaji H., Kohlski S.,
RA Hayashizaki Y.;
RT "Functional annotation of a full-length mouse cDNA collection.";
RL Nature 409:685-690(2001).
DR EMBL: AK017562; BAB30806.1; -
DR MGI: MGI:97762; PRL.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone.1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00338; SOMATOTROPIN_2: 1.
SQ SEQUENCE 227 AA; 25771 MW; F24B1D6B8B89D54 CRC64;

Query Match 59.2%; Score 702; DB 11; Length 227;
Best Local Similarity 59.9%; Pred. NO. 8.1e-53;
Matches 136; Conservative 38; Mismatches 51; Indels 2; Gaps 1;

OY 1 MNKSPMKGSLLLVNLLCSVAPLPICPGAARCOVTLNDFRAVYLSHYTHN 60
DB 3 MNSQSAQRKTLNLLNLFCONVOPPLPCSAAG--DCQTSLEKLEFRAVYLSHYTHN 60
OY 61 SSEMSEFDRYTHGRGFTIRAINSCHTSLATPEDEKQAQOMNOKDFSLIVSLRSMN 120
DB 61 YTFMEIFEDKOYVDREFRMKVINDCPTSLATPEDEKQAQKVPPEVLNLLISLVSS 120
OY 121 EPLVHLYTEVGMQAPALISKAVEIEQTKRLLEGHLLVSOVHPETKENEIYPWMS 180
DB 121 DPLFQLTGVGIDQAPAYILSRKETEONKQLEGEVKITISQAYPEAKNGITFVMS 180
OY 181 LPSLOMDEESRLSAYYNLHLCLRDHSKIDNYIKLKCRITIHNNC 227
DB 181 LPSQGVDEESKILSLRNTIRCLRDHSKIDNYIKLKCRITIHNNC 227

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RESULT 9
O63293 PRELIMINARY: PRT: 161 AA.
AC O63293:
DT 01-NOV-1996 (TREMBlrel. 01, Created)
DT 01-NOV-1996 (TREMBlrel. 01, Last sequence update)
DT 01-JUN-2001 (TREMBlrel. 17, Last annotation update)
DE PROLACTIN PRECURSOR (PRL) (FRAGMENT).
GN PRL.
OS Rattus norvegicus (Rat).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;

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CC	Mammalia:Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Rattus.
OX	NCBI_TaxID=10116;
RN	[1]
RP	SEQUENCE FROM N.A.
RX	MEDLINE=79179804; PubMed=375200;
RA	Gubbins E.J., Maurer R.A., Hartley J.L., Donelson J.E.;
RT	"Construction and analysis of recombinant DNAs containing a structural
RL	gene for rat prolactin.";
CC	Nucleic Acids Res. 6:915-930(1979).
CC	-1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC	PROMOTING LACTATION.
CC	-1- SUBCELLULAR LOCATION: SECRETED.
CC	-1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR	EMBL; V01250; CAA24563.1; -.
DR	HSSP; Q28632; 1AN3.
DR	InterPro; IPR001400; SOMATOTROPIN.
DR	Pfam; PF00103; hormone; 1.
DR	PRINTS; PRO0836; SOMATOTROPIN.
DR	PROSITE; PS00266; SOMATOTROPIN_1; 1.
KW	Hormone; Parturition; Lactation; Pituitary; signal.
FT	NON_TER 1 1
FT	SIGNAL 1 16
FT	CHAIN 17 >161
FT	DISULFID 20 25
FT	NON_TER 161 161
FT	BY SIMILARITY.
SO	SEQUENCE 161 AA; 18228 MM; 0B1E02D9AA91B17F CRC64;
Query Match	43.4%; Score 514; DB 11; Length 161;
Best Local Similarity	60.7%; Pred. No. 8.2e-37;
Matches 99; Conservative 27; Mismatches 35; Indels 2; Gaps 1;	
OY	13 ILLIYNSILLCOVSAPLPICPGARCOVTLRLDLPDRAVVLSHYIHNLSEMFSEFDKRY 72
DB	1 LLLMNSNLLFCQNGVOTLVYCSCG--DCQTXHXELFDREVYMLSHYHLYTDMFIEFDKQY 58
OY	73 THRGCFITKAINSCHTSSLAPPEDEKQAOQNMOKDFLSILRSWEPYLVHTEVWG 132
DB	59 VQDFREFIKAINDCPTSSITLAPPEDEKQAKVPEVILNLLISLWSMNDPLFOLITGLG 118
OY	133 MQAPEALISKAVETIEEQTRLLEGMELIVSVHETKENETY 175
DB	119 IHEAPDAIISRAKETEONKRLLGLEIKIISQAYPEAKGNETY 161
RESULT 10	
O77687	PRELIMINARY; PRT; 236 AA.
ID	077687;
AC	077687;
DT	01-NOV-1998 (TREMBlrel. 08, Created)
DT	01-NOV-1998 (TREMBlrel. 08, Last sequence update)
DT	01-JUN-2001 (TREMBlrel. 17, Last annotation update)
DE	PLACENTAL LACTOGEN PRECURSOR.
GN	PL.
OS	Ovis aries (Sheep).
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC	Mammalia; Eutheria; Cetartiodactyla; Ruminantia; Pecora; Bovidae;
OC	Bovidae; Caprinae; Ovis.
OX	NCBI_TaxID=9940;
RN	[1]
RP	SEQUENCE FROM N.A.
RA	Liang R., Limesand S.W., Anthony R.V.;
RT	"Structure and Transcriptional Regulation of the Ovine Placental
RL	Lactogen Gene.";
CC	Submitted (JUL-1998) to the EMBL/GenBank/DBJ databases.
CC	-1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR	EMBL; AF079548; AAC31200.1; -.
DR	EMBL; AF079545; AAC31200.1; JOINED.
DR	EMBL; AF079546; AAC31200.1; JOINED.
DR	EMBL; AF079547; AAC31200.1; JOINED.
DR	HSSP; Q28632; 1AN3.
DR	InterPro; IPR001400; SOMATOTROPIN.
DR	Pfam; PF00103; hormone; 1.

[illegible]


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Query Match      39.1%; Score 463.5; DB 11; Length 227;
Best Local Similarity 39.1%; Pred. No. 2.8e-32;
Matches 88; Conservative 51; Mismatches 85; Indels 1; Gaps 1;

OY 3 IKGSWMKSLLLVSNLLCOSVAPLPICPGARCOVTLRDLFDRAVVLVSHYIHNLS 62
   : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 4 VLSPQCSMFQVLLVSNLLMEVNTSMPCFDEMGENTTELTIELDSDAFMAQYISNLT 63

OY 63 EMFSEFDKRYTHGNGFITKAINSCHTSSLATPEDEQAQOMKDFLSIIVSILRSNMP 122
   : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 64 QMSEFDFANFVHSIGYKARNSSNCHTSLATPASTEQIQQSDVLKMKVISISRAMYHP 123

OY 123 LYHLYTEVKGQAEPAILSKAVEIEBOTKRLLEGMEIIVSOVPEKENEIYPWAGLP 182
   : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 124 LKQVRLATLEGACKTLLKVEIKETNOETLGELKAILRVHGAEN-VYAAAMGIA 182

OY 183 SLOWADEESRLSAYNLLHCLRRDSHKIDNYLKLKCRILHNHC 227
   : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 183 DYKSDQWTRFALSNIIHCLDSQTNKAVYIIEALKCRILHNHC 227

RESULT 14
O35257 PRELIMINARY; PRT: 230 AA.
AC O35257;
DT 01-JAN-1998 (TREMblrel. 05, Created)
DT 01-JAN-1998 (TREMblrel. 05, Last sequence update)
DT 01-JUN-2001 (TREMblrel. 17, Last annotation update)
DE PROLACTIN-LIKE PROTEIN B PRECURSOR.
GN PRPB OR PLP-B.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RA Muller H., Ishimura R., Orwig K.E., Liu B., Soares M.J.;
RL Submitted (SEP-1997) to the EMBL/GenBank/DBJ databases.
RN [2]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J;
RX MEDLINE=98049410; PubMed=9389542;
RA Lin J., Poole J., Linzer D.I.;
RT "Three new members of the mouse prolactin/growth hormone family are
   homologous to proteins expressed in the rat.";
RL Endocrinology 138:5541-5549(1997).
RN [3]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J;
RA Lin J., Poole J., Linzer D.I.;
RL Submitted (JUN-1997) to the EMBL/GenBank/DBJ databases.
DR EMBL; AF0155563; AAB68825.1; -
DR EMBL; AF011384; AAB92400.1; -
DR HSSP; O28632; IAN3
DR MGD; MGI:1206579; P11pb.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone.1.
DR PRINTS; PR00836; SOMATOTROPIN.
KW Signal.
FT SIGNAL 1 29 POTENTIAL.
FT CHAIN 30 230 PROLACTIN-LIKE PROTEIN-B.
SQ SEQUENCE 230 AA; 26621 MW; 2F0BD63EC7BF0C51 CRC64;

Query Match      38.5%; Score 456; DB 11; Length 230;
Best Local Similarity 41.0%; Pred. No. 1.3e-31;
Matches 91; Conservative 51; Mismatches 78; Indels 2; Gaps 1;

OY 8 WKSILLVSNLLCOSVAPLPICPGARCOVTLRDLFDRAVVLVSHYIHNLSSEMESE 67
   : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 9 FSGTLLMLASFLMKRVAPVPMVASIDEGEMSIYDLDLHVTLTSHNVSLTRTDMRI 68

OY 68 F--DKRYTHGNGFITKAINSCHTSSLATPEDEQAQOMKDFLSIIVSILRSNMPLYH 125

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Db 69 FREDVRYKRGFRFSDRYTACTSTLTITSVSKEGARQMGVLEVMISMLTAMRYPLYH 128

OY 126 LVTEVKGQAEPAILSKAVEIEBOTKRLLEGMEIIVSOVPEKENEIYPWAGLPISQ 185
   : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 129 ITTELSTYMQADEILISRNREEKIYVLEALRGILSLIQGPPENEPYPMNELASIQ 188

OY 186 MADEESRLSAYNLLHCLRRDSHKIDNYLKLKCRILHNHC 227
   : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 189 SPDEDLRHLLTLENLPQCLVKDSRKIDSSIRLKLKLTLYNRDC 230

RESULT 15
O9DAX1 PRELIMINARY; PRT: 251 AA.
ID O9DAX1;
AC O9DAX1;
DT 01-JUN-2001 (TREMblrel. 17, Created)
DT 01-JUN-2001 (TREMblrel. 17, Last sequence update)
DT 01-JUN-2001 (TREMblrel. 17, Last annotation update)
DE 1600014J19RIK PROTEIN.
GN 1600014J19RIK.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxID=10090;
RN [1]
RP SEQUENCE FROM N.A.
RC STRAIN=C57BL/6J; TISSUE=PLACENTA;
RX MEDLINE=21085660; PubMed=11217851;
RA Kawai J., Shinagawa A., Shibata K., Yoshino M., Toh M., Ishii Y.,
RA Arakawa T., Hara A., Fukunishi Y., Kono H., Adachi J., Fukuda S.,
RA Aizawa K., Izawa M., Nishi K., Kiyosawa H., Kondo S., Yamana K.I.,
RA Saito T., Okazaki Y., Gojobori T., Bono H., Kasukawa T., Saito R.,
RA Kadota K., Matsuda H.A., Ashburner M., Batalov S., Casavant T.,
RA Fleischmann W., Gaasterland T., Gissi C., King B., Kochiya H.,
RA Kuehl P., Lewis S., Matsuo Y., Nikaido I., Pesole G., Quackenbush J.,
RA Schriml L.M., Staudt F., Suzuki R., Tomita M., Wagner L., Washio T.,
RA Sakai K., Okido T., Furuno M., Aono H., Baldarelli R., Barsh G.,
RA Blake J., Boffelli D., Bojunga N., Carninci P., de Bonaldo M.F.,
RA Brownstein M.J., Bult C., Fletcher C., Fujita M., Gariboldi M.,
RA Gustincich S., Hill D., Hofmann M., Hume D.A., Kamliya M., Lee N.H.,
RA Lyons P., Marchionni L., Mashima J., Mazzarelli J., Mombaerts P.,
RA Nordone P., Ring B., Ringwald M., Rodriguez I., Sakamoto N.,
RA Saeki K., Sato K., Schoenbach C., Seya T., Shibata Y., Storch K.-F.,
RA Suzuki H., Toyooka K., Wang K.H., Weitz C., Whitlaker C., Wilming L.,
RA Wyszynski-Boris A., Yoshida K., Hasegawa Y., Kawai J., Kohlsaki S.,
RA Hayashizaki Y.;
RT "Functional annotation of a full-length mouse CDNA collection.";
RL Nature 409:685-690(2001).
DR EMBL; AK005458; BAB24049.1; -
DR MGD; MGI:1922846; 1600014J19RIK.
DR InterPro; IPR001400; SOMATOTROPIN.
DR Pfam; PF00103; hormone.1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
SQ SEQUENCE 251 AA; 28959 MW; F946C6018639F221 CRC64;

Query Match      37.8%; Score 448.5; DB 11; Length 251;
Best Local Similarity 39.6%; Pred. No. 6.3e-31;
Matches 91; Conservative 51; Mismatches 75; Indels 13; Gaps 1;

OY 11 SLLVSNLLCOSVAPLPICPGARCOVTLRDLFDRAVVLVSHYI----- 57
   : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 12 AQGIILMSLLMEDVSVPTGSSGSEMLTEPDLFDAILTSHINSLATETRIPLFS 71

OY 58 HNLSSMESEFDKRYTHGNGFITKAINSCHTSSLATPEDEQAQOMKDFLSIIVSIIR 117
   : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 72 NNFSSDMFTTFLOFNRHDFVNVGLNSCHTLPKLSPTKEKAKRISLPDFNMILSIIR 131

OY 118 SWNEPLHYHLYTEVKGQAEPAILSKAVEIEBOTKRLLEGMEIIVSOVPEKENEIYP 177
   : | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
Db 132 AWDNPLHMETELKSPGAPFALIRVVDIEVKNKILDLRIKIAKKVYGGFEENEVYPA 191

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Fri Apr 26 09:18:15 2002

us-09-815-306-1.rspt

Page 8

Oy 178 MSGLESLQMADEESRLSAYVYNNLHCLRPDSHKIDNYLKLCRIIHNNC 227
||| ||| : ||| : : : ||| ||| -
Db 192 MSELMSLOSANEESRFALYKLSYCFLVDTKVEHYLKLKCYPFDGYMC 241

Search completed: April 25, 2002, 11:06:55
Job time: 180 sec

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: April 25, 2002, 11:07:41 ; Search time 10.82 Seconds

(without alignments)
769.216 Million cell updates/sec

Title: US-09-815-306-1

Perfect score: 227
Sequence: 1 MNKGSFPMKGSLLLLVSNL.....HKIDNYLKLLKRIHHNNNC 227

Scoring table:
Gapop 60.0 , Gapext 60.0

Searched: 100059 seqs, 36664827 residues

Word size: 0

Total number of hits satisfying chosen parameters: 100059

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Listing first 45 summaries

Database: SwissProt_39:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	Query Match	Length	DB ID	Description
1	227	100.0	227	1	PRL_HUMAN P01236 homo sapien
2	55	24.2	227	1	PRL_MACMU P55151 macaca mula
3	26	11.5	199	1	PRL_CAMDR P23393 camelus dro
4	26	11.5	227	1	PRL_RABIT Q28632 oryctolagus
5	26	11.5	229	1	PRL_PIG P21238 sus scrofa
6	25	11.0	193	1	PRL_MUSVI P29234 mustela vis
7	25	11.0	199	1	PRL_HORSE P12420 equus caball
8	24	10.6	134	1	PRL_BURJA P43001 buto japoni
9	24	10.6	198	1	PRL_CHEMY P33090 chelonla my
10	24	10.6	228	1	PRL_MONDO O62819 monodelphis
11	24	10.6	228	1	PRL_TRIVU O62781 trichosurus
12	19	8.4	229	1	PRL_MELGA P17572 meleagris g
13	17	7.5	199	1	PRL1_ALAMI P55753 crocodylus
14	17	7.5	199	1	PRL1_CRONO P55752 alligator m
15	17	7.5	199	1	PRL2_ALAMI P55754 alligator m
16	17	7.5	199	1	PRL2_CRONO P55754 crocodylus
17	17	7.5	229	1	PRL_FELCA P46403 felis silve
18	16	7.0	199	1	PRL_BALBO P33089 balaeopter
19	14	6.2	226	1	PRL_RAT P01237 rattus norv
20	13	5.7	226	1	PRL_MOUSE P06879 mus musculu
21	13	5.3	229	1	PRL_BOVIN P01239 bos taurus
22	12	5.3	229	1	PRL_CAPIH Q28318 capra hircu
23	12	5.3	229	1	PRL_CHICK P16766 gallus gall
24	12	5.3	229	1	PRL_SHEEP P01240 ovis aries
25	10	4.4	229	1	PRL_LOXAF P10765 loxodonta a
26	10	4.4	212	1	PRL1_OREMO P09319 oreochromis
27	10	4.4	223	1	PRLV_RAT P34207 rattus norv
28	10	4.4	227	1	PRLA_RAT P09320 rattus norv
29	9	4.0	200	1	PRL_PROAT P33091 protoplerus
30	9	4.0	209	1	PRL_ANGAN P33096 anguilla an
31	8	3.5	186	1	PRL1_ICTPU P51904 ictalurus p
32	8	3.5	200	1	PRL2_OREMO P09318 oreochromis
33	8	3.5	207	1	PRL_HYPMO P35395 hypophthalm

34	8	3.5	210	1	PRL2_ONCKE P09584 oncorhynch
35	8	3.5	210	1	PRL_CORAU P34181 coregonus a
36	8	3.5	210	1	PRL_CYPCA P09585 cyprinus ca
37	8	3.5	210	1	PRL_HYPNO P29235 hypophthalm
38	8	3.5	210	1	PRL_ONCMY P21993 oncorhynch
39	8	3.5	210	1	PRL_SALSA P48096 salmo salar
40	8	3.5	211	1	PRL1_ONCKE P09583 oncorhynch
41	8	3.5	212	1	PRL_DICLA P48249 dicentrarch
42	8	3.5	226	1	PRL_MESAU P37884 mesocricetu
43	8	3.5	236	1	PLI1_BOVIN P09611 bos taurus
44	8	3.5	238	1	PLI2_BOVIN P19159 bos taurus
45	7	3.1	108	1	SVS4_MOUSE P16419 mus musculu

ALIGNMENTS

RESULT	1	STANDARD:	PRT:	227 AA.
PRL_HUMAN				
ID	PRL_HUMAN	P01236; Q15199; Q92996;		
AC	P01236; Q15199; Q92996;			
DT	21-JUL-1986 (Rel. 01, Created)			
DT	21-JUL-1986 (Rel. 01, Last sequence update)			
DT	20-AUG-2001 (Rel. 40, Last annotation update)			
DE	PROLACTIN PRECURSOR (PRL).			
GN	PRL.			
OS	Homo sapiens (Human).			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Primates; Catarrhini; Homiidae; Homo.			
OX	NCBI_TaxID=9606;			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RX	MEDLINE=84182507; PubMed=6325171;			
RA	Truong A.T., Duez C., Belayew A., Renard A., Pictet R.L., Bell G.L.,			
RA	Martial J.A.;			
RT	"Isolation and characterization of the human prolactin gene.";			
RL	EMBO J. 3:429-437(1984).			
RN	[2]			
RP	SEQUENCE FROM N.A.			
RX	MEDLINE=81168179; PubMed=6260780;			
RA	Cooke N.E., Colt D., Shine J., Baxter J.D., Martial J.A.;			
RT	"Human prolactin. cDNA structural analysis and evolutionary			
RL	comparisons.";			
RL	J. Biol. Chem. 256:4007-4016(1981).			
RN	[3]			
RP	SEQUENCE FROM N.A.			
RX	Pubmed=2050267;			
RA	Hirooka Y., Tatsumi K., Shiozawa M., Aiso S., Fukasawa T., Yasuda K.,			
RA	Miyai K.;			
RT	"A placenta-specific 5'non-coding exon of human prolactin.";			
RL	Mol. Cell. Endocrinol. 75:71-80(1990).			
RN	[4]			
RP	SEQUENCE OF 11-227 FROM N.A.			
RX	MEDLINE=84264464; PubMed=6146607;			
RA	Takahashi H., Nabeshima Y., Nabeshima Y., Ogata K., Takeuchi S.;			
RT	"Molecular cloning and nucleotide sequence of DNA complementary to			
RL	human decidual prolactin mRNA.";			
RL	J. Biochem. 95:1491-1499(1984).			
RN	[5]			
RP	SEQUENCE OF 11-201 FROM N.A.			
RC	TISSUE=Breast;			
RX	MEDLINE=97411082; PubMed=9266104;			
RA	Shaw-Bruba C.M., Pirrucciello S.J., Shull J.D.;			
RT	"Expression of the prolactin gene in normal and neoplastic human			
RT	breast tissues and human mammary cell lines: promoter usage and			
RT	alternative mRNA splicing.";			
RL	Breast Cancer Res. Treat. 44:243-253(1997).			
RN	[6]			
RP	SEQUENCE OF 29-227.			
RX	MEDLINE=78046207; PubMed=925136;			
RA	Shome B., Parlow A.F.;			
RT	"Human pituitary prolactin (hPRL): the entire linear amino acid			
RT	sequence.";			

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RN  U. Clin. Endocrinol. Metab. 45:1112-1115(1977).
RN  [7]
RP  SEQUENCE OF 29-53.
RA  MEDLINE-75151509; PubMed-1126929;
RT  Jacobs J.W., Niall H.D.;
RT  "High sensitivity automated sequence determination of polypeptides.";
RT  J. Biol. Chem. 250:3629-3636(1975).
CC  -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC  PROMOTING LACTATION.
CC  -1- SUBCELLULAR LOCATION: SECRETED.
CC  -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC  -1- CAUTION: REF.3 SEQUENCE DIFFERS FROM THAT SHOWN DUE TO A
CC  FRAMESHIFT IN POSITION 8.
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CC  -----
DR  EMBL: X00540; CAA25214.1; -.
DR  EMBL: X00541; CAA25214.1; JOINED.
DR  EMBL: X00543; CAA25214.1; JOINED.
DR  EMBL: X00544; CAA25214.1; JOINED.
DR  EMBL: V00566; CAA23829.1; -.
DR  EMBL: M29386; AAA60173.1; -.
DR  EMBL: D00411; BAA00312.1; -.
DR  EMBL: X54393; CAA38263.1; ALT_FRAME.
DR  EMBL: X54393; CAA38264.1; ALT_FRAME.
DR  EMBL: U75583; AAB70858.1; -.
DR  PIR: A90988; LCHU.
DR  HSSP: Q28632; IAN3.
DR  MIM: 176760; -.
DR  InterPro: IPR001400; SOMATOTROPIN.
DR  Pfam: PF00103; hormone; 1.
DR  PRINTS: PRO0836; SOMATOTROPIN.
DR  PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR  PROSITE: PS00338; SOMATOTROPIN_2; 1.
KM  Hormone; Parturition; Lactation; Pituitary; Signal; Glycoprotein.
FT  SIGNAL 1 28
FT  CHAIN 29 227
FT  DISULFID 32 39
FT  DISULFID 86 202
FT  DISULFID 219 227
FT  CARBOHYD 59 59
FT  CONFLICT 42 42
FT  CONFLICT 110 111
FT  CONFLICT 113 114
FT  CONFLICT 118 118
FT  CONFLICT 148 148
FT  CONFLICT 172 172
FT  CONFLICT 190 191
FT  CONFLICT 206 206
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Matches 227; Conservative 0; Mismatches 0; Indels 0; Gaps 0;
QY 1 MNKSGPMKSGSLLLLVNLLCSVAPLPICPGGAARCOVTLRLDFRAVVLSHYIHL 60
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QY 61 SSEMFSEFDKRYTHGRCFTTAINSCHTSSLATPEDEKQAOQMOQKFLSLVLSLRSWN 120
Db 61 SSEMFSEFDKRYTHGRCFTTAINSCHTSSLATPEDEKQAOQMOQKFLSLVLSLRSWN 120
QY 121 EPLVHLTEVGMQAPPAIISKAVEIEEQTKRLLEGKMLIVSOVHPETKENEIYVWWSG 180
Db 121 EPLVHLTEVGMQAPPAIISKAVEIEEQTKRLLEGKMLIVSOVHPETKENEIYVWWSG 180

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QY 181 LPSLQMADEESRLSAYYNLHCLRRDSHKIDNYLKLKCRIRHNNNC 227
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RESULT 2
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ID PRL_MACMU
AC P51511;
DT 01-OCT-1996 (Rel. 34, Created)
DT 01-OCT-1996 (Rel. 34, Last sequence update)
DE 01-OCT-1996 (Rel. 34, Last annotation update)
DE PROLACTIN PRECURSOR (PRL).
GN PRL.
OS Macaca mulatta (Rhesus macaque).
OC Eukaryota; Euteleostomi; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Cercopithecoidea;
OC Cercopithecoidea; Macaca.
OX NCBI_TaxID=9544;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Decidua;
RX MEDLINE-94220570; PubMed-8167226;
RA Brown N.A., Bethea C.L.;
RT "Cloning of decidua prolactin from rhesus macaque.";
RL Biol. Reprod. 50:543-552(1994).
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC -----
DR  EMBL: U09018; AAA18471.1; -.
DR  HSSP: Q28632; IAN3.
DR  InterPro: IPR001400; SOMATOTROPIN.
DR  Pfam: PF00103; hormone; 1.
DR  PRINTS: PRO0836; SOMATOTROPIN.
DR  PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR  PROSITE: PS00338; SOMATOTROPIN_2; 1.
KM  Hormone; Parturition; Lactation; Pituitary; Signal; Glycoprotein.
FT  SIGNAL 1 28
FT  CHAIN 29 227
FT  DISULFID 32 39
FT  DISULFID 86 202
FT  DISULFID 219 227
FT  CARBOHYD 59 59
SQ  SEQUENCE 227 AA; 25972 MW; 1B6B25E087C401E4 CRC64;
Query Match 24.2%; Score 55; DB 1; Length 227;
Best Local Similarity 100.0%; Pred. No. 1, 9e-45;
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Db 26 VAPLPICPGGAARCOVTLRLDFRAVVLSHYIHLSEMFSEFDKRYTHGRCFTT 80
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ID PRL_CAMDR
AC P22393;
DT 01-AUG-1991 (Rel. 19, Created)
DT 01-AUG-1991 (Rel. 19, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)

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DE PROLACTIN (PRL).
GN PRL.
OS Camelus dromedarius (Dromedary) (Arabian camel).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Tylopoda; Camelidae; Camelus.
OX NCBI_TaxID=9838;
RN [1]
RP SEQUENCE AND CARBOHYDRATE-LINKAGE SITE.
RX MEDLINE=91230144; PubMed=2029533;
RA Marlat N., Huet J.-C., Nespoulos C., Combarous Y.,
RA Pernollet J.-C.;
RT "Determination of the primary and secondary structures of the
RT dromedary (Camelus dromedarius) prolactin and comparison with
RT prolactins from other species.";
RL Biochim. Biophys. Acta 1077:339-345(1991).
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR PIR; S15131. S15131.
DR HSSP; Q28632; IAN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Parturition; Lactation; Pituitary; Glycoprotein.
FT DISULFID 4 11
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Db 169 YNLHCLRRDSHKIDNYLKLKCR11 194
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ID PRL_RABIT STANDARD: PRT; 227 AA.
AC Q28632;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 15-JUL-1998 (Rel. 36, Last annotation update)
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GN PRL.
OS Oryctolagus cuniculus (Rabbit).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Lagomorpha; Leporidae; Oryctolagus.
OX NCBI_TaxID=9986;
RN [1]
RP SEQUENCE FROM N.A.
RX STRAIN=NEW ZEALAND WHITE;
RX MEDLINE=96280118; PubMed=8672230;
RA Gabou L., Boissard M., Gourdou I., Jammes M., Dulor J.P., Djiane J.;
RT "Cloning of rabbit prolactin cDNA and prolactin gene expression in
RT the rabbit mammary gland.";
RL J. Mol. Endocrinol. 16:27-37(1996).
RN [2]
RP 3D-STRUCTURE MODELING.
RX MEDLINE=97248733; PubMed=9094747;
RA Halaby D., Thoreau E., Djiane J., Morron J.P.;
RT "Homology modeling of rabbit prolactin hormone complexed with its
RT receptor.";
RL Proteins 27:459-468(1997).
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.

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CC -1- SUBCELLULAR LOCATION: SECRETED.
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CC -----
DR EMBL; U27199; AAB17481.1; -.
DR PDB; IAN3; 03-DEC-97.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS; PR00836; SOMATOTROPIN.
DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Parturition; Lactation; Pituitary; Signal; 3D-structure.
FT SIGNAL 1 28
FT CHAIN 29 227
FT DISULFID 32 39
FT DISULFID 86 202
FT DISULFID 219 227
SQ SEQUENCE 227 AA; 25990 MW; 7AB7570F4F7DB048 CRC64;

Query Match 11.5%; Score 26; DB 1; Length 227;
Best Local Similarity 100.0%; Pred. No. 1.4e-17;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

QY 197 YNLHCLRRDSHKIDNYLKLKCR11 222
Db 197 YNLHCLRRDSHKIDNYLKLKCR11 222
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PRL_PIG
ID PRL_PIG STANDARD: PRT; 229 AA.
AC P01238;
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-OCT-1994 (Rel. 30, Last sequence update)
DT 01-FEB-1996 (Rel. 33, Last annotation update)
DE PROLACTIN PRECURSOR (PRL).
GN PRL.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCBI_TaxID=9623;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE=89263739; PubMed=2726463;
RA Schulz Aellen M.F., Schmid E., Movva R.N.;
RT "Nucleotide sequence of porcine preprolactin cDNA.";
RL Nucleic Acids Res. 17:3295-3295(1989).
RN [2]
RP SEQUENCE FROM N.A.
RX MEDLINE=90262633; PubMed=2344390;
RA Kato Y., Hirai T., Kato T.;
RT "Molecular cloning of cDNA for porcine prolactin precursor.";
RL J. Mol. Endocrinol. 4:135-142(1990).
RN [3]
RP SEQUENCE OF 31-229.
RX MEDLINE=76189476; PubMed=1270193;
RA Li C.H.;
RT "Studies on pituitary lactogenic hormone. The primary structure of
RT the porcine hormone.";
RL Int. J. Pept. Protein Res. 8:205-224(1976).
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----

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DR EMBL: X14068; CAA32231.1; -
DR PIR: A01507; LCPG.
DR PIR: S04077; S04077.
DR PIR: A60971; A60971.
DR HSSP: Q28632; IAN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Parturition; Lactation; Pituitary; Signal; Glycoprotein.
FT SIGNAL 1 30
FT CHAIN 31 229 PROLACTIN.
FT DISULFID 34 41
FT DISULFID 88 204
FT DISULFID 221 229
FT CARBOHYD 61 61 N-LINKED (GLCNAC...) (PARTIAL).
FT CONFLICT 4 4
FT CONFLICT 43 43 R -> T (IN REF. 1).
FT CONFLICT 152 152 V -> M (IN REF. 1).
FT CONFLICT 226 226 Q -> E (IN REF. 3).
FT CONFLICT 226 226 D -> N (IN REF. 3).
SQ SEQUENCE 229 AA; 26141 MW; 908507EE6DA3B47 CRC64;

Query Match
Best Local Similarity 11.0%; Score 25; DB 1; Length 229;
Matches 26; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLKLKCR1 222
Db 199 YNLHCLRRDSHKIDNYLKLKCR1 224

RESULT 6

PRL_MUSVI STANDARD: PRT; 193 AA.
AC P29234;
DT 01-DEC-1992 (Rel. 24, Created)
DT 01-FEB-1995 (Rel. 31, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE PROLACTIN (PRL) (FRAGMENT).
GN PRL.
OS Musceta vison (American mink).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Carnivora; Fissipedia; Mustelidae; Mustela.
OX NCBI_Taxid=9667;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE-94140110; PubMed-8307350;
RA Pereelygina L.M., Baricheva E.M., Sebeleva T.E., Kokoza V.A.;
RT "The evolutionarily conserved gene Nc70F, expressed in nerve tissue
RT of Drosophila melanogaster, encodes a protein homologous to the mouse
RL Genetika 29:1597-1607(1993).
RN [2]
RP SEQUENCE OF 19-193 FROM N.A.
RC TISSUE-Pituitary;
RA Bondar A.A., Golovin S.J., Mertvelsov N.P.;
RL Submitted (NOV-1991) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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DR EMBL: X59785; CAA42447.1; -
DR PIR: X63235; CAA44910.1; -
DR PIR: S18882; S18882.
DR HSSP: Q28632; IAN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Parturition; Lactation; Pituitary.
FT NON_TER 1 1
FT DISULFID 52 168 BY SIMILARITY.
FT DISULFID 185 193 BY SIMILARITY.
FT CONFLICT 40 40 H -> Q (IN REF. 2).
FT CONFLICT 154 154 E -> D (IN REF. 2).
FT CONFLICT 190 190 H -> D (IN REF. 2).
SQ SEQUENCE 193 AA; 22417 MW; 03BDF6102B9DC30 CRC64;

Query Match
Best Local Similarity 11.0%; Score 25; DB 1; Length 193;
Matches 25; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLKLKCR1 221
Db 163 YNLHCLRRDSHKIDNYLKLKCR1 187

RESULT 7

PRL_HORSE STANDARD: PRT; 199 AA.
AC P12420;
DT 01-OCT-1989 (Rel. 12, Created)
DT 01-OCT-1989 (Rel. 12, Last sequence update)
DT 01-NOV-1997 (Rel. 35, Last annotation update)
DE PROLACTIN (PRL).
GN PRL.
OS Equus caballus (Horse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Perissodactyla; Equidae; Equus.
OX NCBI_Taxid=9796;
RN [1]
RP SEQUENCE
RX MEDLINE-88314465; PubMed-3045032;
RA Lehman S.R., Lahm H.W., Miedel M.C., Hulmes J.D., Li C.H.;
RT "Primary structure of equine pituitary prolactin."
RL Int. J. Pept. Protein Res. 31:544-554(1988).
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR PIR: JK0016; LCHO.
DR HSSP: Q28632; IAN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Parturition; Lactation; Pituitary; Glycoprotein.
FT DISULFID 4 11 BY SIMILARITY.
FT DISULFID 58 174 BY SIMILARITY.
FT DISULFID 191 199 BY SIMILARITY.
FT CARBOHYD 31 31 N-LINKED (GLCNAC...) (PARTIAL).
SQ SEQUENCE 199 AA; 23001 MW; 119AE5B6278019E CRC64;

Query Match
11.0%; Score 25; DB 1; Length 199;

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Best Local Similarity 100.0%; Pred. No. 1.2e-16;
Matches 25; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLKLKCR 221
    |||||||
Db 169 YNLHCLRRDSHKIDNYLKLKCR 193

RESULT 8
PRL_BUFA STANDARD: PRT; 134 AA.
AC P43001;
DT 01-NOV-1995 (Rel. 32, Created)
DT 01-NOV-1995 (Rel. 32, Last sequence update)
DE PROLACTIN (PRL) (FRAGMENT).
OS Bufo japonicus (Japanese toad).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Amphibia; Batrachia; Anura; Neobatrachia; Bufonidae; Bufonidae;
OC Bufo.
OX NCBI_TaxID=8387;
RN SEQUENCE FROM N.A.
RP TISSUE=Pituitary;
RX MEDLINE=94197900; PubMed=8148042;
RA Takahashi N., Yamamoto K., Kikuyama S.;
RT Cloning of a toad prolactin cDNA: expression of prolactin mRNA in
RT larval and adult pituitaries."
RL J. Mol. Endocrinol. 11:343-349(1993).
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
CC -----
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CC -----
CC EMBL: S69309; AAB30425.1; -.
DR HSSP: Q28632; IAN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PROSITE: PS00266; SOMATOTROPIN_1; PARTIAL.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT NON_TER 1 1 BY SIMILARITY.
FT DISULFID 126 134
SQ SEQUENCE 134 AA; 15520 MW; DDC7BD7A26DB5544 CRC64;

Query Match 10.6%; Score 24; DB 1; Length 134;
Best Local Similarity 100.0%; Pred. No. 7.7e-16;
Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLKLKCR 220
    |||||||
Db 104 YNLHCLRRDSHKIDNYLKLKCR 127

RESULT 9
PRL_CHEMY STANDARD: PRT; 198 AA.
AC P33090;
DT 01-OCT-1993 (Rel. 27, Created)
DT 01-OCT-1993 (Rel. 27, Last sequence update)
DE PROLACTIN (PRL).
OS Chelonia mydas caranigra (Green sea-turtle).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Testudines; Cryptodira; Chelonioidea; Chelonidae; Chelonia.
OX NCBI_TaxID=8469;

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RN [1]
RP SEQUENCE.
RX MEDLINE=91146884; PubMed=2289679;
RA Yasuda A., Kawachi H., Papkoff H.;
RT "The complete amino acid sequence of prolactin from the sea turtle
RT (Chelonia mydas).";
RL Gen. Comp. Endocrinol. 80:363-371(1990).
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- TISSUE SPECIFICITY: PITUITARY GLANDS.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
DR PIR: A60620; A60620.
DR HSSP: Q28632; IAN3.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.
DR PROSITE: PS00338; SOMATOTROPIN_2; 1.
KW Hormone; Pituitary.
FT DISULFID 4 11 BY SIMILARITY.
FT DISULFID 58 173 BY SIMILARITY.
FT DISULFID 190 198 BY SIMILARITY.
FT VARIANT 55 55 I -> L.
FT VARIANT 145 145 L -> V.
FT VARIANT 148 148 P -> R.
FT VARIANT 171 171 L -> M.
SQ SEQUENCE 198 AA; 22605 MW; 8AC5B1600272053D CRC64;

Query Match 10.6%; Score 24; DB 1; Length 198;
Best Local Similarity 100.0%; Pred. No. 1.1e-15;
Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRRDSHKIDNYLKLKCR 220
    |||||||
Db 168 YNLHCLRRDSHKIDNYLKLKCR 191

RESULT 10
PRL_MONDO STANDARD: PRT; 228 AA.
AC O62819;
DT 15-DEC-1998 (Rel. 37, Created)
DT 15-DEC-1998 (Rel. 37, Last sequence update)
DT 15-DEC-1998 (Rel. 37, Last annotation update)
DE PROLACTIN PRECURSOR (PRL).
GN PRL.
OS Monodelphis domestica (Short-tailed grey opossum).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Metatheria; Didelphimorphia; Didelphidae; Monodelphis.
OX NCBI_TaxID=13616;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=Pituitary.
RA Kaesch B., Soos G.;
RL Submitted (MAY-1998) to the EMBL/GenBank/DBJ databases.
CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
CC PROMOTING LACTATION.
CC -1- SUBCELLULAR LOCATION: SECRETED.
CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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CC -----
DR EMBL: AF067726; AAC18398.1; -.
DR InterPro: IPR001400; SOMATOTROPIN.
DR Pfam: PF00103; hormone; 1.
DR PRINTS: PR00836; SOMATOTROPIN.
DR PROSITE: PS00266; SOMATOTROPIN_1; 1.

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DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
 KW Hormone; Parturition; Lactation; Pituitary; Signal; Glycoprotein.
 FT SIGNAL 1 29 BY SIMILARITY.
 FT CHAIN 30 228 PROLACTIN.
 FT DISULFID 33 40 BY SIMILARITY.
 FT DISULFID 87 203 BY SIMILARITY.
 FT DISULFID 220 228 BY SIMILARITY.
 SQ SEQUENCE 228 AA; 26071 MW; 4DA2D906EF33BEA9 CRC64;

Query Match 10.6%; Score 24; DB 1; Length 228;
 Best Local Similarity 100.0%; Pred. No. 1.2e-15;
 Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRDSDHKIDNYLKLCR 220
 DB 198 YNLHCLRDSDHKIDNYLKLCR 221

RESULT 11
 PRL_TRIVU STANDARD; PRT; 228 AA.
 ID PRL_TRIVU
 AC 062781;
 DT 15-DEC-1998 (Rel. 37, Created)
 DT 15-DEC-1998 (Rel. 37, Last sequence update)
 DT 15-DEC-1998 (Rel. 37, Last annotation update)
 DE PROLACTIN PRECURSOR (PRL).
 GN PRL.
 OS Trichosurus vulpecula (Brush-tailed possum).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Mammalia; Metatheria; Diprotodontia; Phalangeridae; Trichosurus.
 OX NCBI_TaxID=9337;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=96325477; PubMed=9653022;
 RA Curlew J.D., Saunders M.C., Kuang J., Harrison G.A., Cooper D.W.;
 RT "Cloning and sequence analysis of a pituitary prolactin cDNA from the
 RT brush-tailed possum (Trichosurus vulpecula).";
 RL Gen. Comp. Endocrinol. 111:61-67(1998).
 CC -1- FUNCTION: PROLACTIN ACTS PRIMARILY ON THE MAMMARY GLAND BY
 CC PROMOTING LACTATION. MAMMOGENESIS, MITOGENESIS AND OSMOREGULATION.
 CC -1- SUBCELLULAR LOCATION: SECRETED.
 CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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 CC -----
 CC EMBL; AF054634; AAC12736.1;
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone. 1.
 DR PRINTS; PR00836; SOMATOTROPIN.
 DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
 KW Hormone; Parturition; Lactation; Pituitary; Signal; Glycoprotein.
 FT SIGNAL 1 29 BY SIMILARITY.
 FT CHAIN 30 228 PROLACTIN.
 FT DISULFID 33 40 BY SIMILARITY.
 FT DISULFID 87 203 BY SIMILARITY.
 FT DISULFID 220 228 BY SIMILARITY.
 SQ SEQUENCE 228 AA; 26097 MW; 25261EBB165EB1A6 CRC64;

Query Match 10.6%; Score 24; DB 1; Length 228;
 Best Local Similarity 100.0%; Pred. No. 1.2e-15;
 Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 197 YNLHCLRDSDHKIDNYLKLCR 220
 DB 198 YNLHCLRDSDHKIDNYLKLCR 221

DB 198 YNLHCLRDSDHKIDNYLKLCR 221

RESULT 12
 PRL_MEIGA STANDARD; PRT; 229 AA.
 ID PRL_MEIGA
 AC P1572;
 DT 01-AUG-1990 (Rel. 15, Created)
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DT 15-JUL-1998 (Rel. 36, Last annotation update)
 DE PROLACTIN PRECURSOR (PRL).
 GN PRL.
 OS Meleagris gallopavo (Common turkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
 OC Archosauria; Aves; Neognathae; Galliformes; Meleagrididae; Meleagris.
 OX NCBI_TaxID=9103;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=96206340; PubMed=8618952;
 RA Xu M., Proudman J.A., Pitts G.R., Wong E.A., Foster D.N.,
 RA el Halawani M.E.;
 RT "Vasoactive intestinal peptide stimulates prolactin mRNA expression
 RT in turkey pituitary cells: effects of dopaminergic drugs.";
 RL Proc. Soc. Exp. Biol. Med. 212:52-62(1996).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=91348480; PubMed=1879669;
 RA Wong E.A., Ferrin N.H., Silsby J.L., el Halawani M.E.;
 RT "Cloning of a turkey prolactin cDNA: expression of prolactin mRNA
 RT throughout the reproductive cycle of the domestic turkey (Meleagris
 RT gallopavo).";
 RL Gen. Comp. Endocrinol. 83:18-26(1991).
 RN [3]
 RP SEQUENCE OF 66-229 FROM N.A.
 RC TISSUE=Pituitary;
 RX MEDLINE=90272435; PubMed=2349117;
 RA Karatzas C.N., Zadworny D., Kuhnlein U.;
 RT "Nucleotide sequence of turkey prolactin.";
 RL Nucleic Acids Res. 18:3071-3071(1990).
 CC -1- SUBCELLULAR LOCATION: SECRETED.
 CC -1- SIMILARITY: BELONGS TO THE SOMATOTROPIN/PROLACTIN FAMILY.
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 CC EMBL; U05957; AAB60615.1;
 DR EMBL; U05953; AAB60615.1; JOINED.
 DR EMBL; U05954; AAB60615.1; JOINED.
 DR EMBL; U05955; AAB60615.1; JOINED.
 DR EMBL; U05952; AAB60604.1;
 DR EMBL; X51769; CAA36071.1;
 DR PIR; S10170; S10170.
 DR HSSP; Q28632; IAN3.
 DR InterPro: IPR001400; SOMATOTROPIN.
 DR Pfam: PF00103; hormone. 1.
 DR PRINTS; PR00836; SOMATOTROPIN.
 DR PROSITE; PS00266; SOMATOTROPIN_1; 1.
 DR PROSITE; PS00338; SOMATOTROPIN_2; 1.
 KW Hormone; Parturition; Lactation; Pituitary; Signal.
 FT SIGNAL 1 30 BY SIMILARITY.
 FT CHAIN 31 229 PROLACTIN.
 FT DISULFID 34 41 BY SIMILARITY.
 FT DISULFID 88 204 BY SIMILARITY.
 FT DISULFID 221 229 BY SIMILARITY.
 FT DISULFID 156 156 BY SIMILARITY.
 SQ SEQUENCE 229 AA; 25854 MW; DEA530EBB2301F2B7 CRC64;

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Page 8

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Job time: 115 sec
